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Access DB# 99425

SEARCH REQUEST FORM RECEIVED

Scientific and Technical Information Center JUL 22 2003

Requester's Full Name: R GITOMER Examiner #: 696 J.P.C. Date: 7/22/03
Art Unit: 1651 Phone Number 308-0732 Serial Number: 10/029,184
Mail Box and Bldg/Room Location: 11B01 Results Format Preferred (circle): PAPER DISK E-MAIL
11D11

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

JAN

Top Secret
Excluded from automatic
downgrading and
declassification
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downgrading and
declassification

STAFF USE ONLY

Searcher: Jan
Searcher Phone #: 4498
Searcher Location: _____
Date Searcher Picked Up: 8/6/03
Date Completed: 8/6/03
Searcher Prep & Review Time: _____
Clerical Prep Time: 20
Online Time: 40

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) ☒ _____
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN ☒ _____
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

=> fil reg

FILE 'REGISTRY' ENTERED AT 14:00:12 ON 06 AUG 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 5 AUG 2003 HIGHEST RN 561276-83-3
DICTIONARY FILE UPDATES: 5 AUG 2003 HIGHEST RN 561276-83-3

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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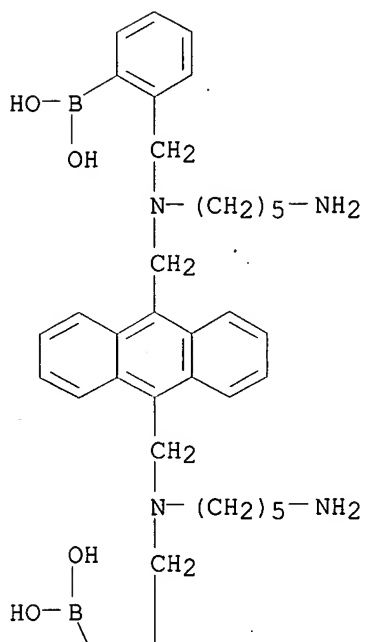
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RN **443290-73-1** REGISTRY
CN Boronic acid, [9,10-anthracenediylbis[methylene[(5-aminopentyl)imino]methylene-2,1-phenylene]]bis-, bis(trifluoroacetate)
(9CI) (CA INDEX NAME)
MF **C40 H52 B2 N4 O4 . 2 C2 H F3 O2**
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

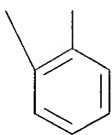
CRN 443290-72-0
CMF C40 H52 B2 N4 O4

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 - 703-308-4498
jan.delaval@uspto.gov

PAGE 1-A

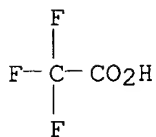


PAGE 2-A



CM 2

CRN 76-05-1
CMF C2 H F3 O2



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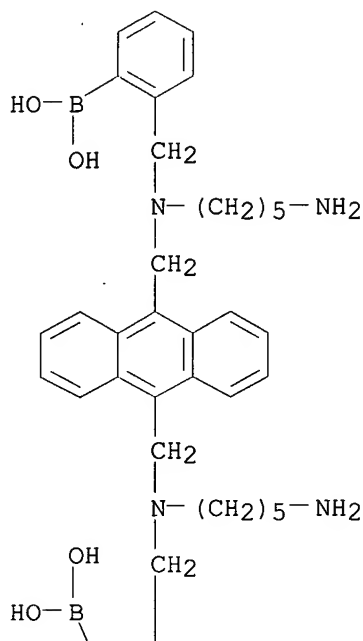
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REFERENCE 2: 137:106086

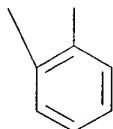
L30 ANSWER 2 OF 7 REGISTRY COPYRIGHT 2003 ACS on STN
RN 443290-72-0 REGISTRY
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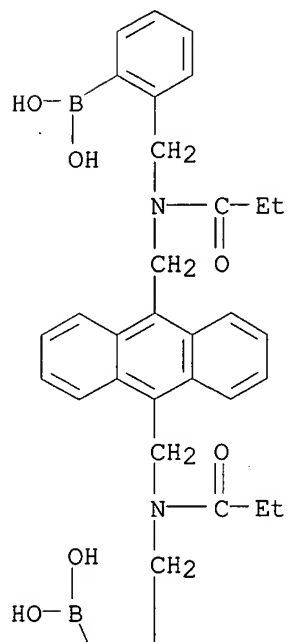
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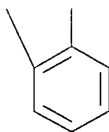
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L30 ANSWER 3 OF 7 REGISTRY COPYRIGHT 2003 ACS on STN
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 MF C36 H38 B2 N2 O6
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-A



PAGE 2-A



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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REFERENCE 1: 138:334060

REFERENCE 2: 137:181947

REFERENCE 3: 137:106086

REFERENCE 4: 137:90594

L30 ANSWER 4 OF 7 REGISTRY COPYRIGHT 2003 ACS on STN

RN 408306-41-2 REGISTRY

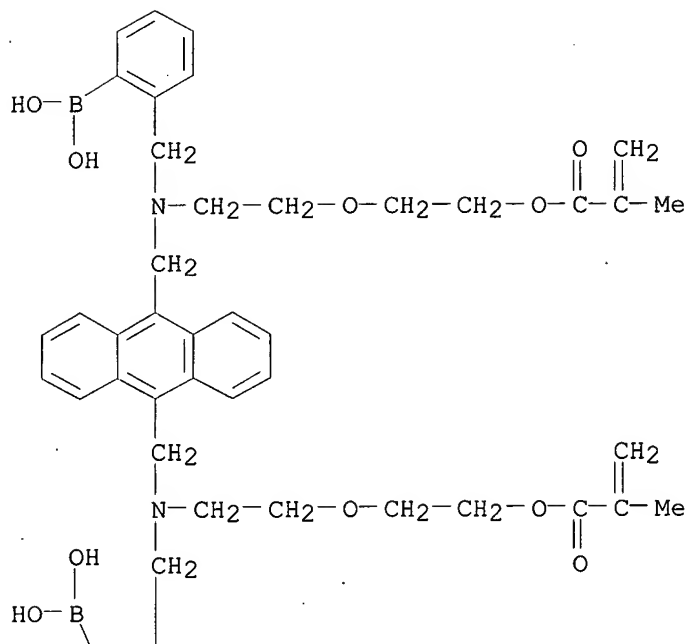
CN Boronic acid, [9,10-anthracenediylbis[methylene[[2-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl]imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

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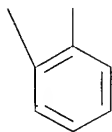
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LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

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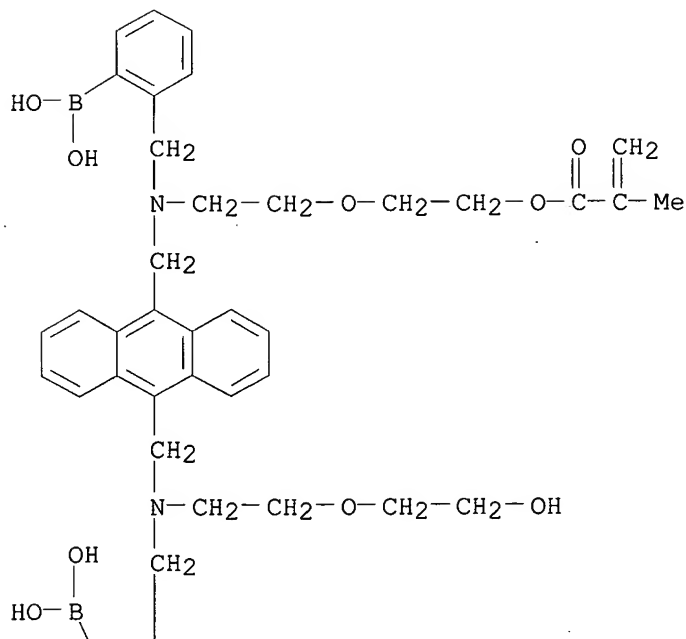
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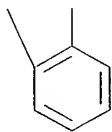
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L30 ANSWER 5 OF 7 REGISTRY COPYRIGHT 2003 ACS on STN
 RN 408306-40-1 REGISTRY
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 MF C42 H50 B2 N2 O9
 SR CA
 LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

PAGE 1-A



PAGE 2-A



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REFERENCE 1: 136:291357

L30 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2003 ACS on STN

RN 408306-39-8 REGISTRY

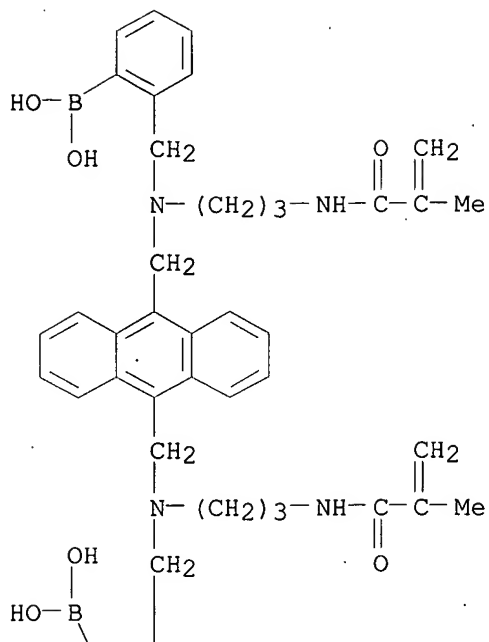
CN Boronic acid, [9,10-anthracenediylbis[methylene[[3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

MF C44 H52 B2 N4 O6

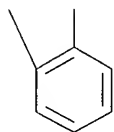
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LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

PAGE 1-A



PAGE 2-A



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REFERENCE 1: 136:291357

L30 ANSWER 7 OF 7 REGISTRY COPYRIGHT 2003 ACS on STN

RN 408306-38-7 REGISTRY

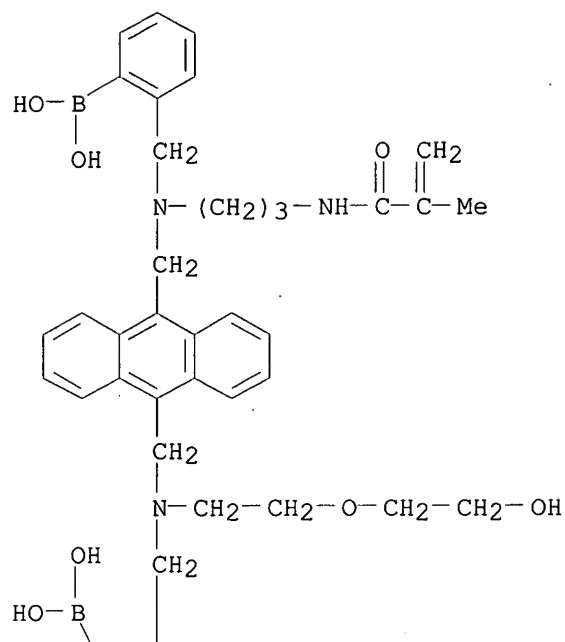
CN Boronic acid, [2-[[[10-[[[(2-boronophenyl)methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl][3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]amino]methyl]phenyl]- (9CI) (CA INDEX NAME)

MF C41 H49 B2 N3 O7

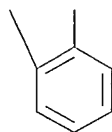
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LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

PAGE 1-A



PAGE 2-A



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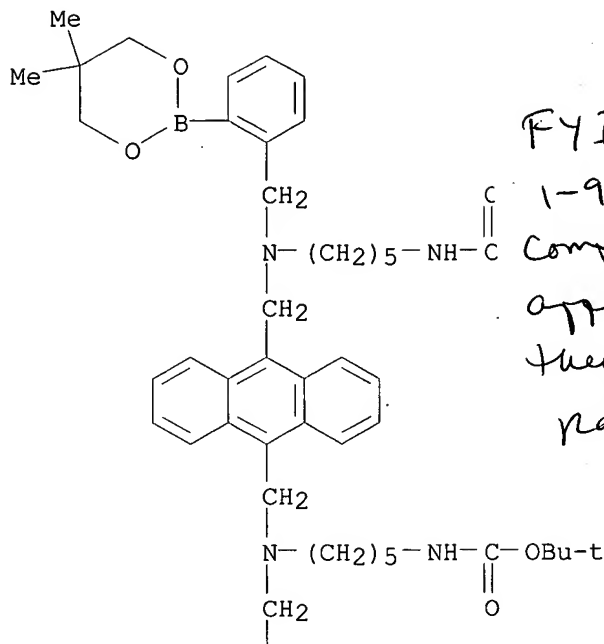
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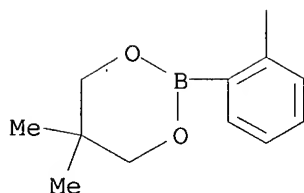
L39 ANSWER 1 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN
 RN 443290-71-9 REGISTRY
 CN Carbamic acid, [9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-5,1-pentanediy]]bis-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)
 MF C60 H84 B2 N4 O8
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-A



FYI: These compounds
1-9 are related
Compounds from
applicants' references;
they read on claim 2,
page 57

PAGE 2-A



2 REFERENCES IN FILE CA (1947 TO DATE)
2 REFERENCES IN FILE CAPLUS (1947 TO DATE)

REFERENCE 1: 137:181947

REFERENCE 2: 137:106086

L39 ANSWER 2 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN

RN 440666-20-6 REGISTRY

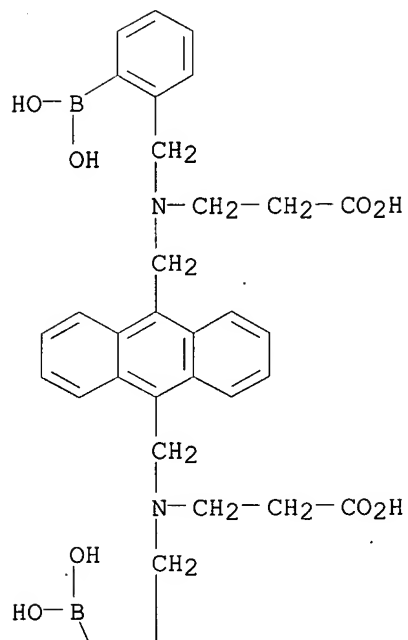
CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[(2-boronophenyl)methyl]- (9CI) (CA INDEX NAME)

MF C36 H38 B2 N2 O8

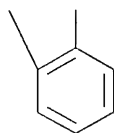
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PAGE 1-A



PAGE 2-A



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REFERENCE 1: 137:75531

L39 ANSWER 3 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN

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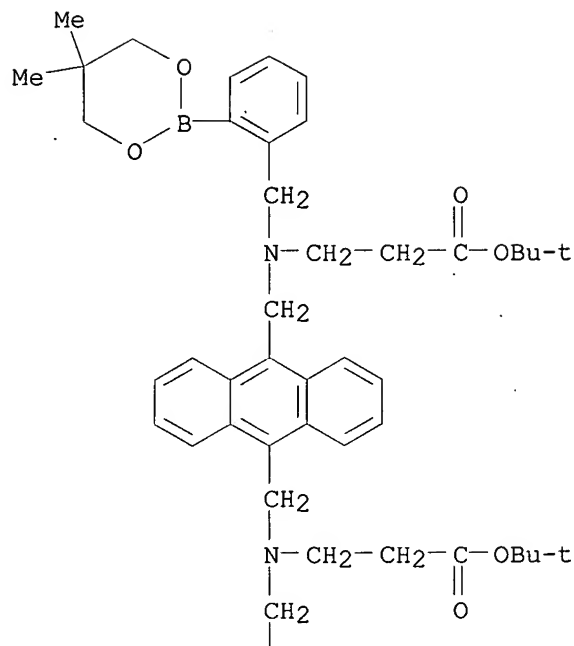
CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

MF **C54 H70 B2 N2 O8**

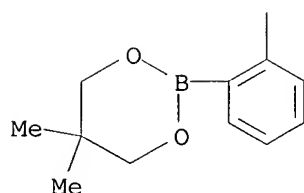
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LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-A



PAGE 2-A



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REFERENCE 1: 138:334060
 REFERENCE 2: 137:181947
 REFERENCE 3: 137:106086
 REFERENCE 4: 137:90594
 REFERENCE 5: 137:75531

L39 ANSWER 4 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN

RN **408306-42-3** REGISTRY

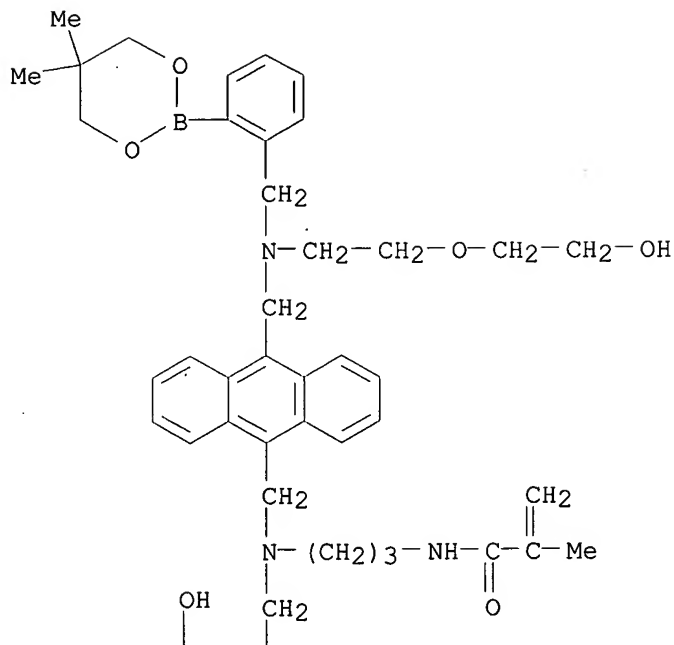
CN Boronic acid, [2-[[[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl][3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]amino]methyl]phenyl]- (9CI) (CA INDEX NAME)

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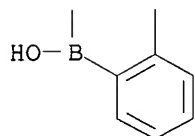
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LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

PAGE 1-A



PAGE 2-A



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REFERENCE 1: 136:291357

L39 ANSWER 5 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN

RN 399032-69-0 REGISTRY

CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

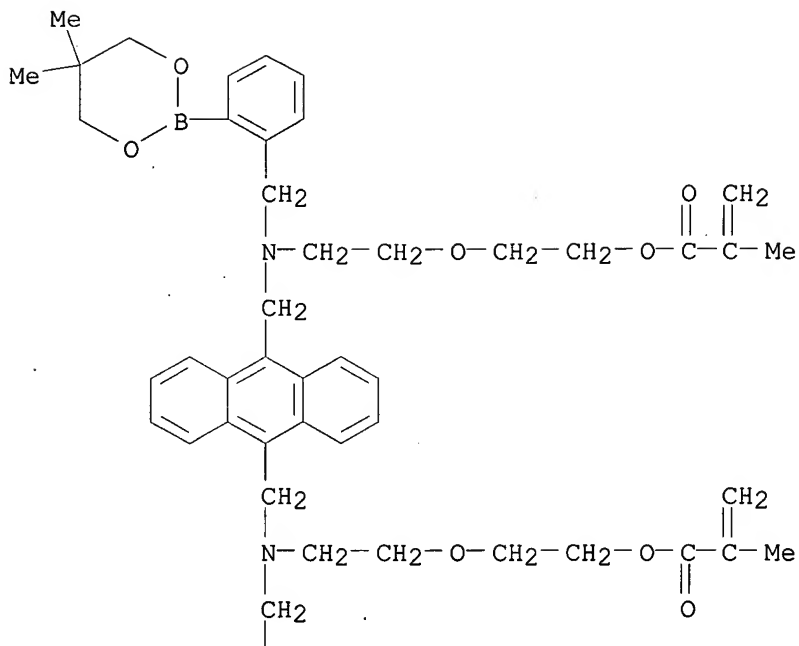
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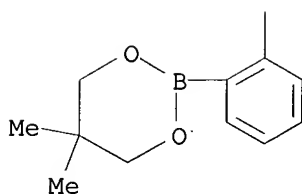
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PAGE 1-A



PAGE 2-A



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REFERENCE 1: 137:181947

REFERENCE 2: 137:106086

REFERENCE 3: 136:291357

REFERENCE 4: 136:184293

L39 ANSWER 6 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN

RN 399032-67-8 REGISTRY

CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

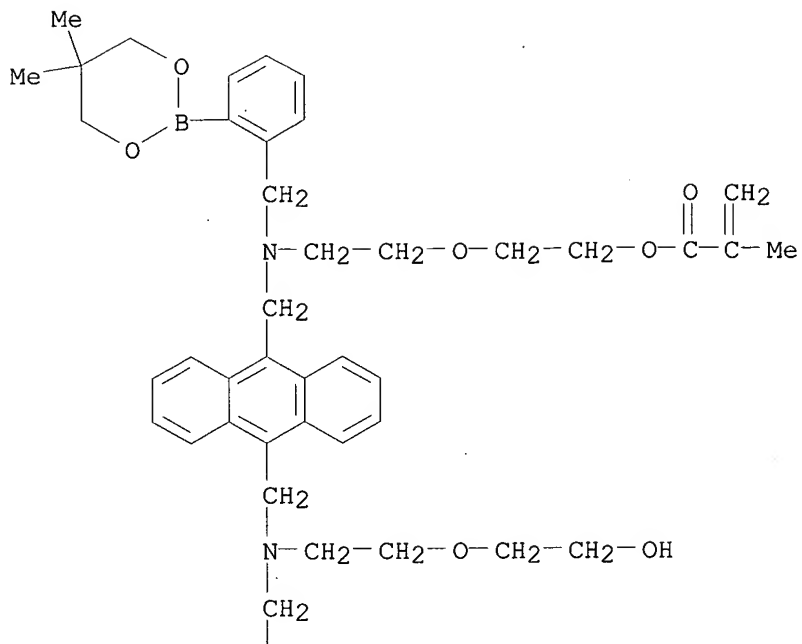
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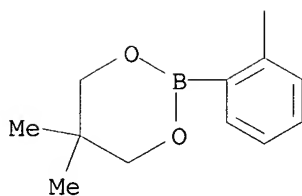
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LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

PAGE 1-A



PAGE 2-A



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 REFERENCE 5: 136:291357
 REFERENCE 6: 136:184293

L39 ANSWER 7 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN

RN **399032-66-7** REGISTRY

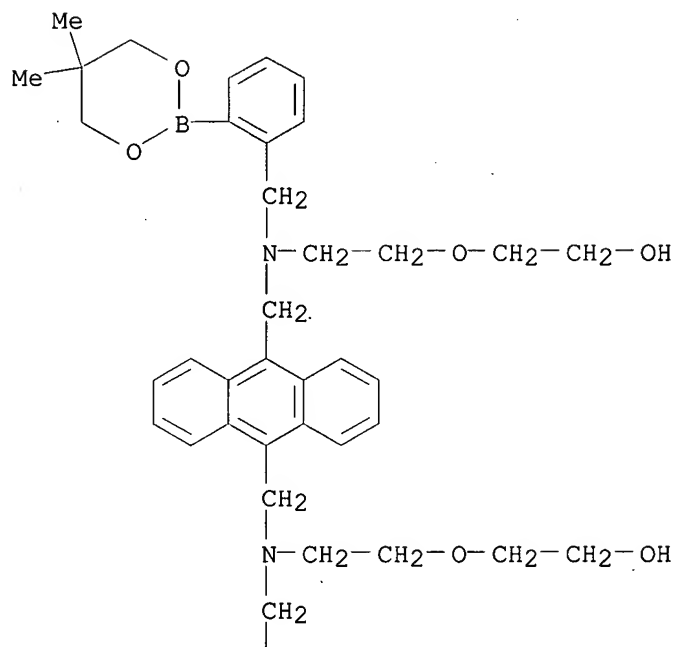
CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- (9CI) (CA INDEX NAME)

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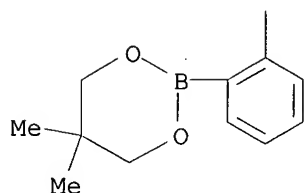
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LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

PAGE 1-A



PAGE 2-A



6 REFERENCES IN FILE CA (1947 TO DATE)
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REFERENCE 1: 138:334060
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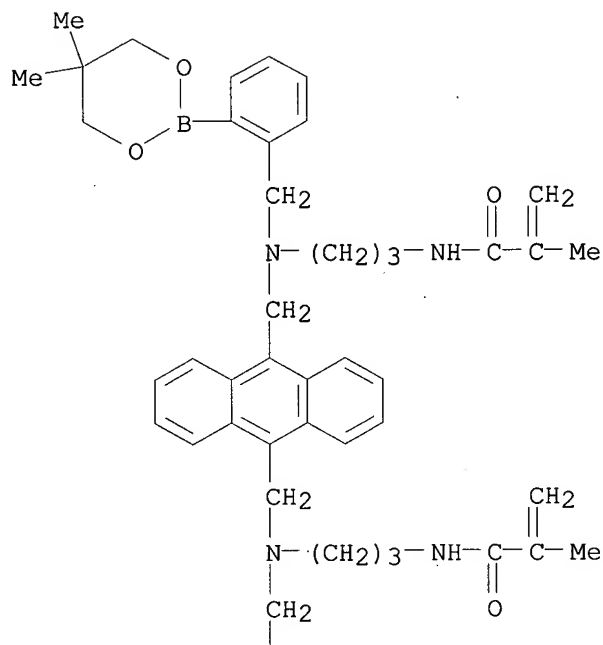
L39 ANSWER 8 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN

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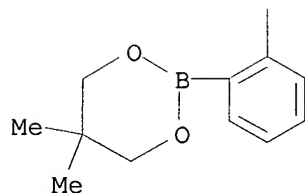
CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl-
 (9CI) (CA INDEX NAME)

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CI COM
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

PAGE 1-A



PAGE 2-A



6 REFERENCES IN FILE CA (1947 TO DATE)
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REFERENCE 2: 137:181947

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L39 ANSWER 9 OF 9 REGISTRY COPYRIGHT 2003 ACS on STN
RN 399032-62-3 REGISTRY

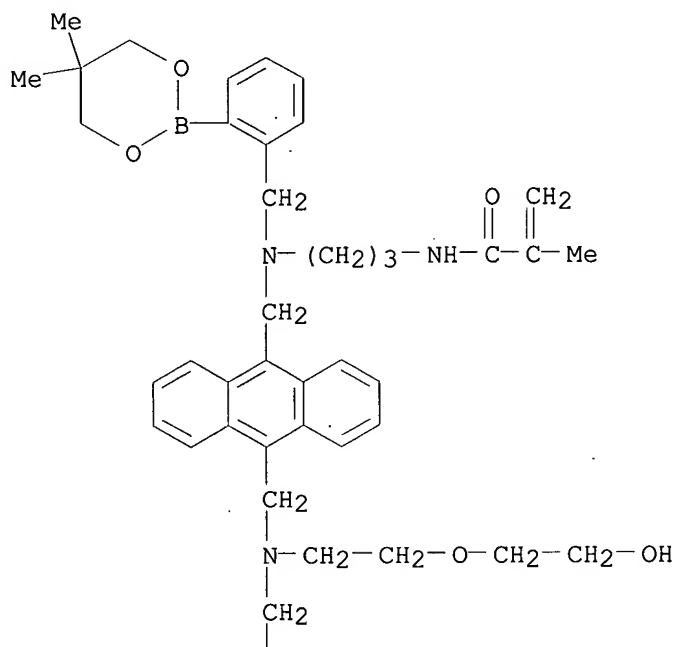
CN 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- (9CI) (CA INDEX NAME)

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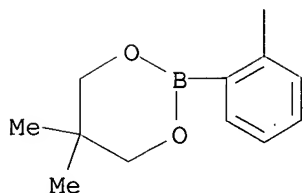
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PAGE 2-A



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REFERENCE 1: 137:181947

REFERENCE 2: 137:106086

REFERENCE 3: 136:291357

REFERENCE 4: 136:184293

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CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 14:00:49 ON 06 AUG 2003

CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> d 148 bib abs hitstr tot

L48 ANSWER 1 OF 2 USPATFULL on STN

AN 2003:120182 USPATFULL

TI Detection of glucose in solutions also containing an alpha-hydroxy acid or a beta-diketone

IN Daniloff, George Y., Mountain View, CA, UNITED STATES

Kalivretenos, Aristotle G., Columbia, MD, UNITED STATES

Nikolaitchik, Alexandre V., Frederick, MD, UNITED STATES

PI US 2003082663 A1 20030501

AI US 2002-187903 A1 20020703 (10)

RLI Continuation-in-part of Ser. No. US 2001-29184, filed on 28 Dec 2001,
PENDING Continuation-in-part of Ser. No. US 2001-754217, filed on 5 Jan
2001, PENDING

PRAI US 2002-363885P 20020314 (60)

US 2001-329746P 20011018 (60)

US 2001-269887P 20010221 (60) <--

DT Utility

FS APPLICATION

LREP ROTHWELL, FIGG, ERNST & MANBECK, P.C., 1425 K STREET, N.W., SUITE 800,
WASHINGTON, DC, 20005

CLMN Number of Claims: 34

ECL Exemplary Claim: 1

DRWN 16 Drawing Page(s)

LN.CNT 2148

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions and methods for determining the presence or concentration of glucose in a sample which may also contain an alpha-hydroxy acid or a beta-diketone. The method uses a compound having at least two recognition elements for glucose, oriented such that the interaction between the compound and glucose is more stable than the interaction between the compound and the alpha-hydroxy acid or beta-diketone, such that the presence of the alpha-hydroxy acid or the beta-diketone does not substantially interfere with said determination.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

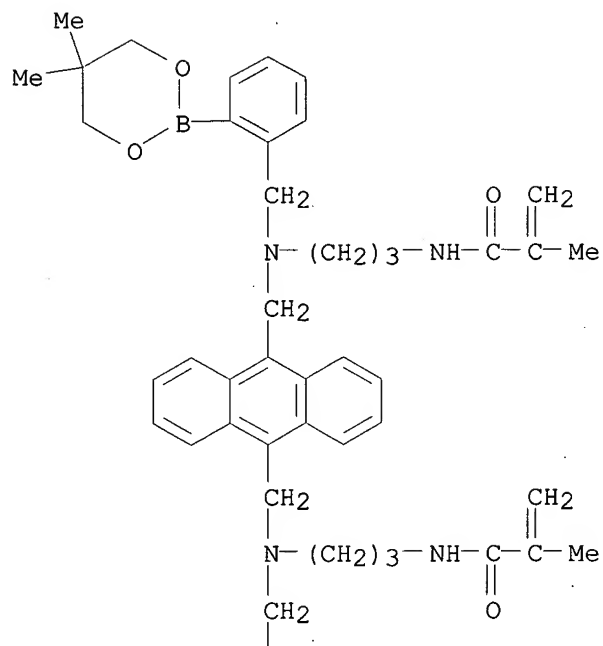
IT 399032-64-5

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

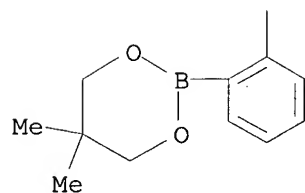
RN 399032-64-5 USPATFULL

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



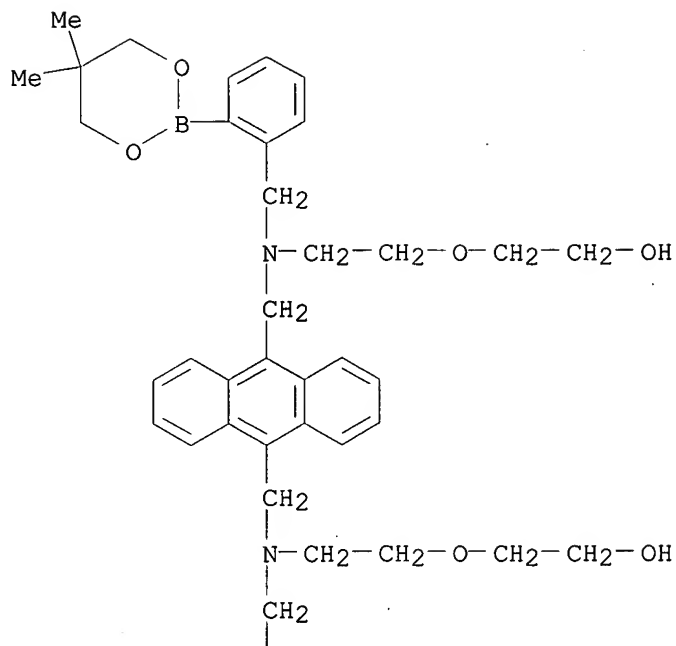
IT 399032-66-7P 399032-67-8P

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

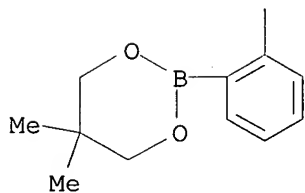
RN 399032-66-7. USPATFULL

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(CA INDEX NAME)

PAGE 1-A

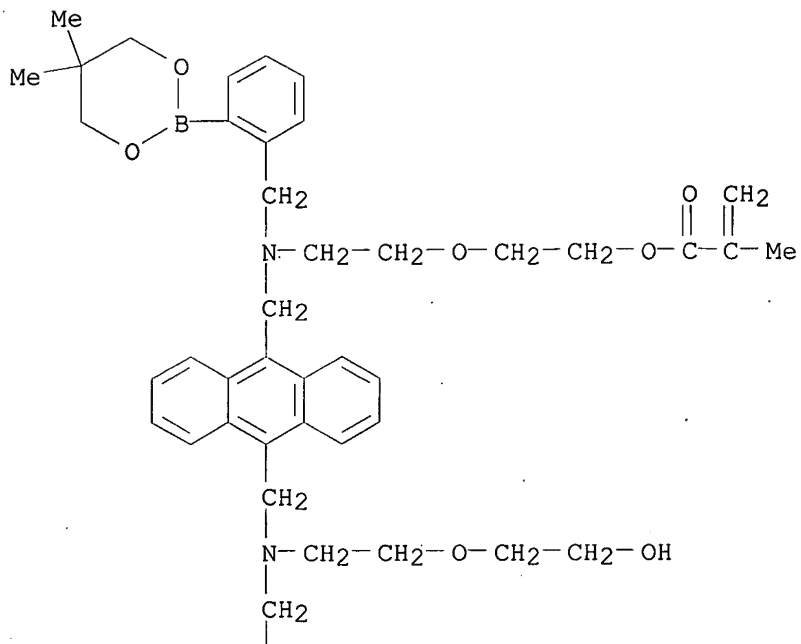


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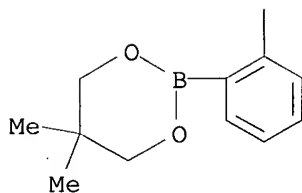


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PAGE 1-A



PAGE 2-A



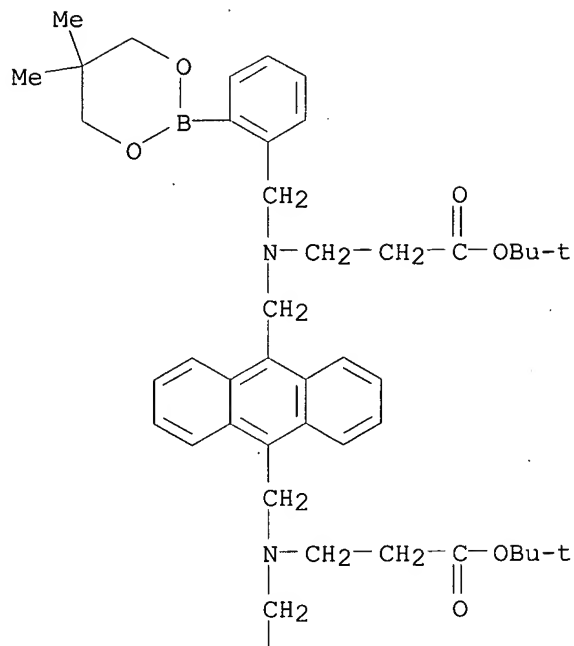
IT 440666-19-3P 441011-77-4P

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

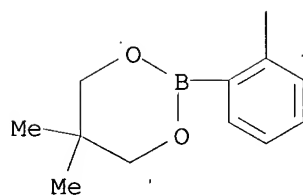
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PAGE 1-A

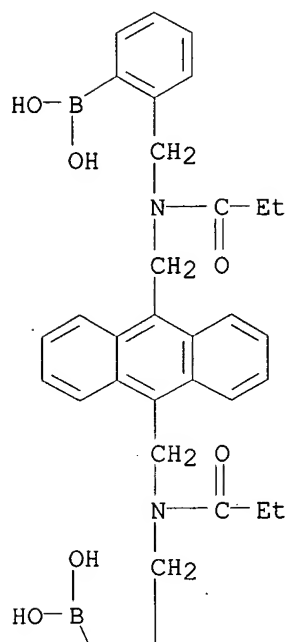


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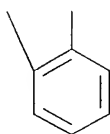


RN 441011-77-4 USPATFULL
 CN Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L48 ANSWER 2 OF 2 USPATFULL on STN
 AN 2002:235437 USPATFULL
 TI Detection of glucose in solutions also containing an alpha-hydroxy acid
 or a beta-diketone
 IN **Daniloff, George Y.**, Mountain View, CA, UNITED STATES
Kalivretenos, Aristotle G., Columbia, MD, UNITED STATES
Nikolaitchik, Alexandre V., Damascus, MD, UNITED STATES
 PA **Sensors for Medicine and Science, Inc.**, Germantown, MD (U.S.
 corporation)
 PI US 2002127626 A1 20020912
 AI US 2001-29184 A1 20011228 (10)
 RLI Continuation-in-part of Ser. No. US 2001-754217, filed on 5 Jan 2001,
 PENDING
 PRAI US 2001-329746P 20011018 (60)
 US 2001-269887P 20010221 (60) <--
 DT Utility
 FS APPLICATION
 LREP ROTHWELL, FIGG, ERNST & MANBECK, P.C., 1425 K STREET, N.W., SUITE 800,
 WASHINGTON, DC, 20005
 CLMN Number of Claims: 34
 ECL Exemplary Claim: 1
 DRWN 13 Drawing Page(s)
 LN.CNT 1619

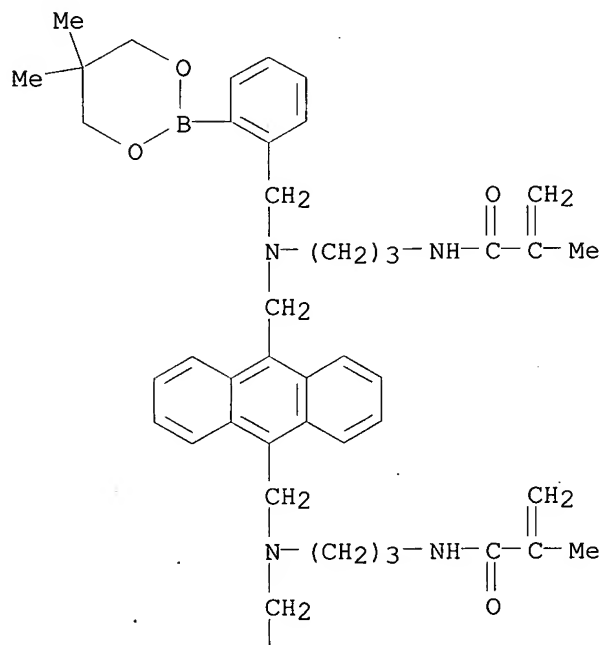
AB Compositions and methods for determining the presence or concentration of glucose in a sample which may also contain an alpha-hydroxy acid or a beta-diketone. The method uses a compound having at least two recognition elements for glucose, oriented such that the interaction between the compound and glucose is more stable than the interaction between the compound and the alpha-hydroxy acid or beta-diketone, such that the presence of the alpha-hydroxy acid or the beta-diketone does not substantially interfere with said determination.

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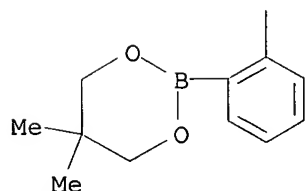
CAS INDEXING IS AVAILABLE FOR THIS NAME
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    yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl-
    (detection of glucose in solns. also contg. alpha-hydroxy acid or a
    beta-diketone)
RN 399032-64-5 USPATFULL
CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-
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    methyl- (9CI) (CA INDEX NAME)

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PAGE 1-A



PAGE 2-A



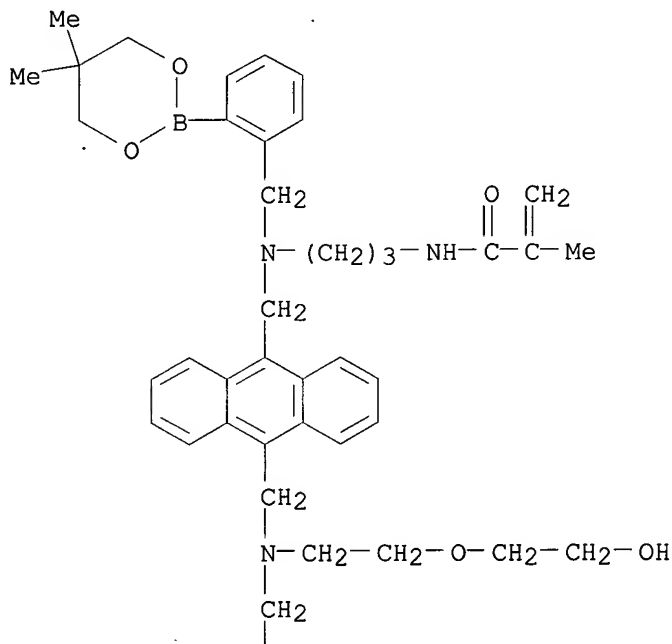
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dioxaborinan-2-yl)phenyl)methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl][2-(2-hydroxyethoxy)ethyl]amino)methyl]-9-anthracenyl)methyl]amino]propyl]-2-methyl- **399032-69-0P**,
 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl]imino]-2,1-ethanediyl] ester **443290-73-1P**, Boronic acid,
 [9,10-anthracenediylbis[methylene[(5-aminopentyl)imino]methylene-2,1-phenylene]]bis-, bis(trifluoroacetate)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

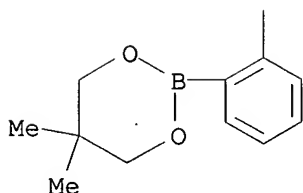
RN 399032-62-3 USPATFULL

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PAGE 1-A



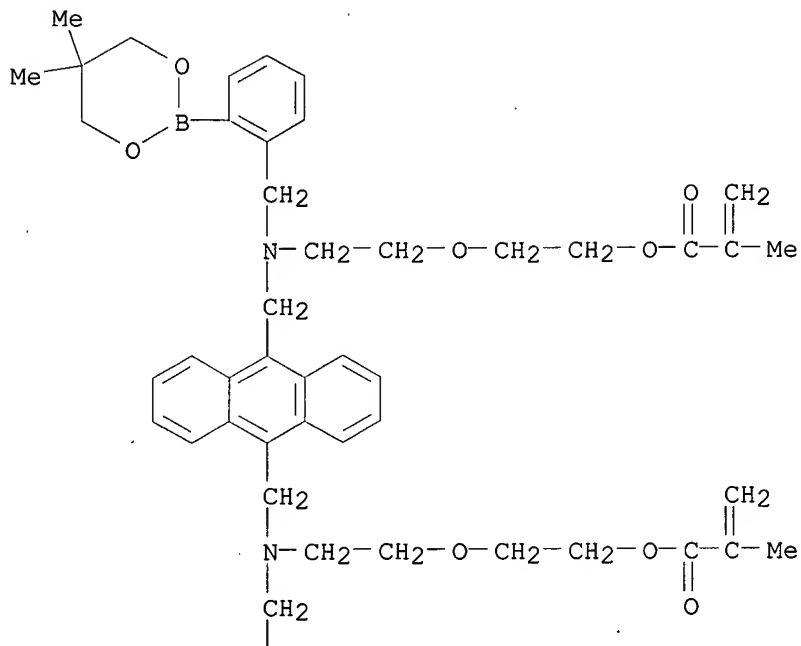
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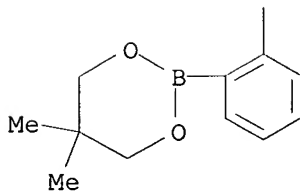
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CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl]imino]-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

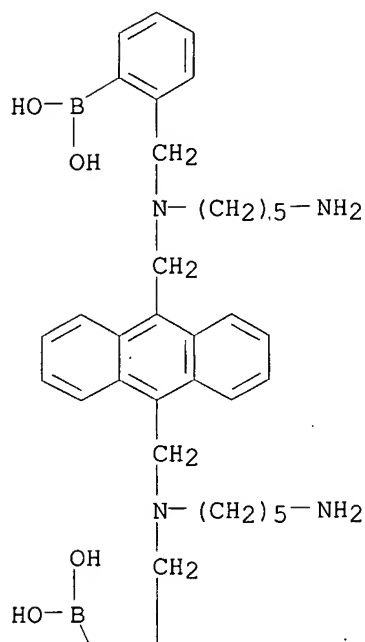


RN 443290-73-1 USPATFULL
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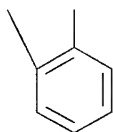
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 CMF C40 H52 B2 N4 O4

PAGE 1-A



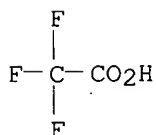
PAGE 2-A



CM 2

CRN 76-05-1

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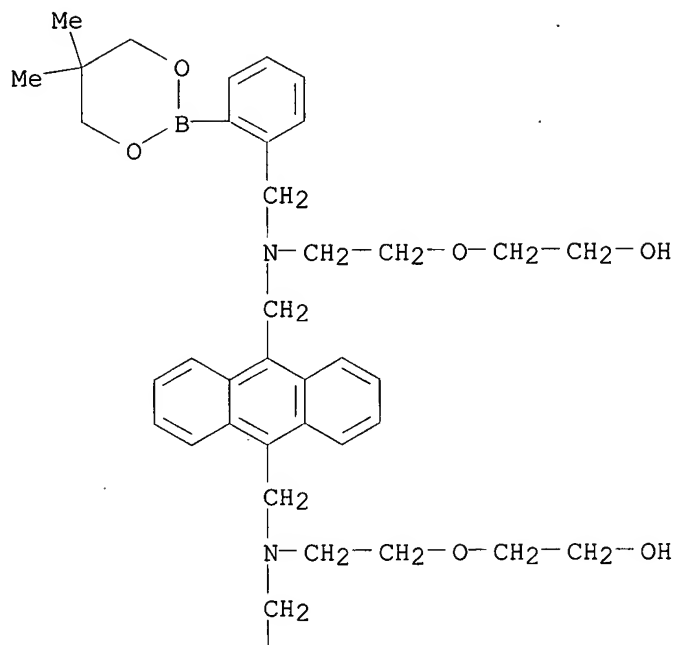
IT **399032-66-7P**, Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediylloxy]]bis- **399032-67-8P 443290-71-9P**, Carbamic acid, [9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-5,1-pentanediy]]bis-, bis(1,1-dimethylethyl) ester
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

RN 399032-66-7 USPATFULL

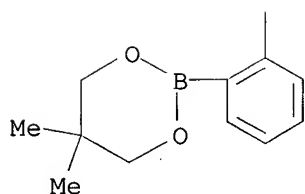
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(CA INDEX NAME)

PAGE 1-A

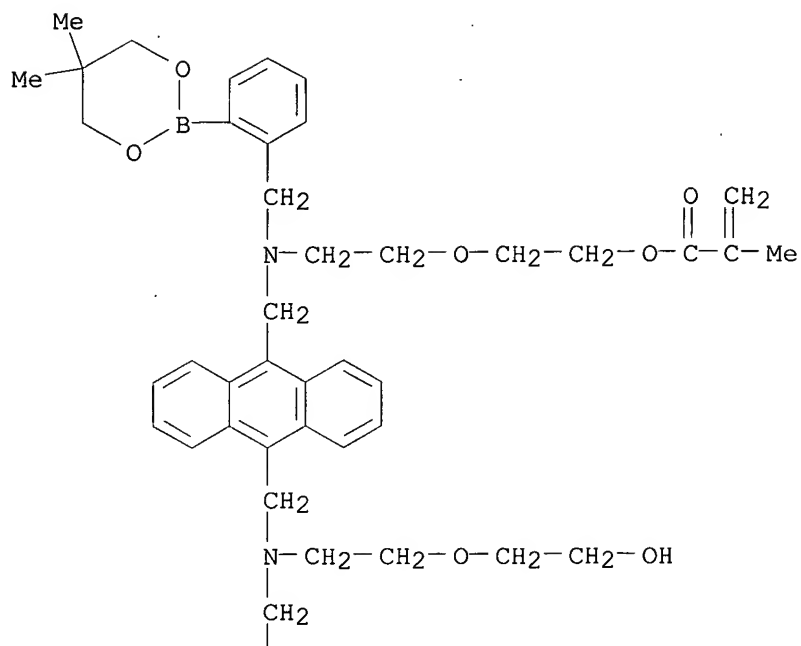


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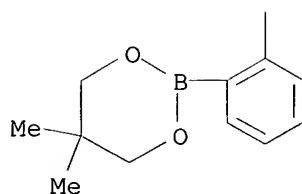


RN 399032-67-8 USPATFULL
CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl)methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

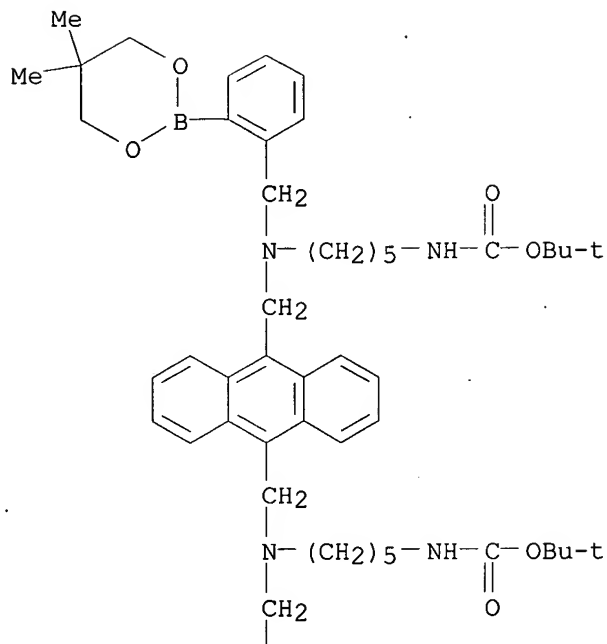


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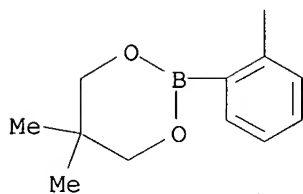


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 CN Carbamic acid, [9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-5,1-pentanediy]]bis-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A

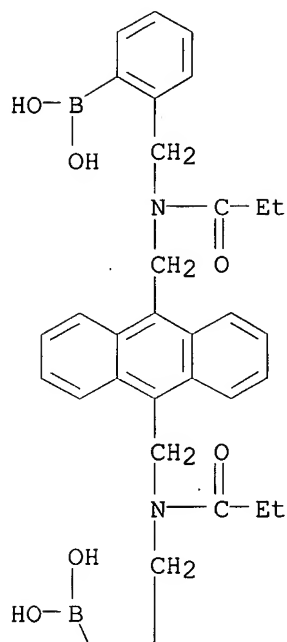


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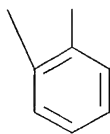


- IT 440666-19-3P, .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester 441011-77-4P, Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis-(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- RN 440666-19-3 USPATFULL
- CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



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L49 ANSWER 1 OF 7 USPATFULL on STN

AN 2003:17452 USPATFULL

TI Detection of analytes in aqueous environments

IN Colvin, Arthur E., JR., Mt. Airy, MD, UNITED STATES

PI US 2003013204 A1 20030116

AI US 2002-193245 A1 20020712 (10)

RLI Division of Ser. No. US 2000-632624, filed on 4 Aug 2000, PENDING

DT Utility

FS APPLICATION

LREP ROTHWELL, FIGG, ERNST & MANBECK, P.C., 1425 K STREET, N.W., SUITE 800, WASHINGTON, DC, 20005

CLMN Number of Claims: 11

ECL Exemplary Claim: 1

DRWN 2 Drawing Page(s)

LN.CNT 596

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to indicator molecules for detecting the presence or concentration of an analyte in a medium, such as a liquid, and to methods for achieving such detection. More particularly, the invention relates to copolymer macromolecules containing relatively hydrophobic

indicator component monomers, and hydrophilic monomers, such that the macromolecule is capable of use in an aqueous environment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

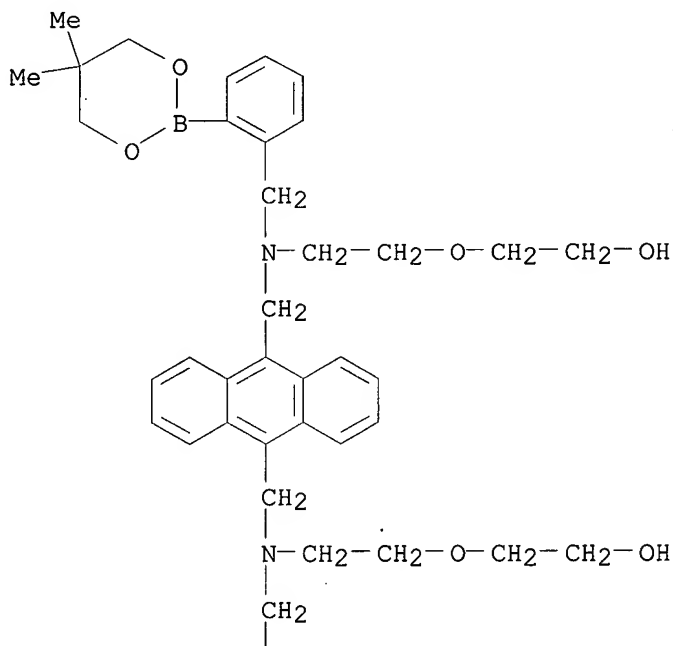
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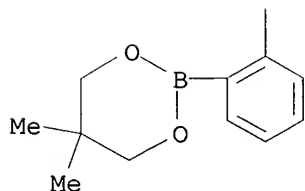
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(CA INDEX NAME)

PAGE 1-A



PAGE 2-A



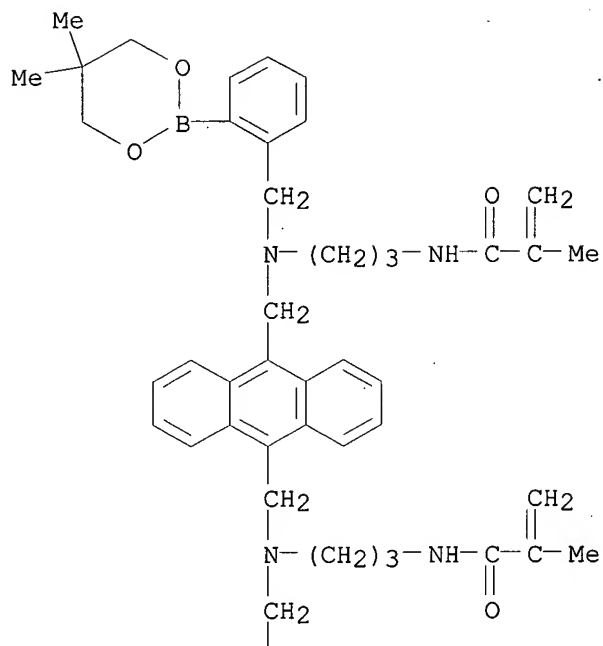
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(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

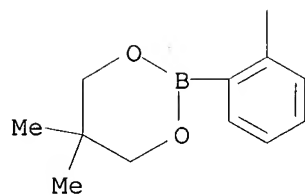
RN 399032-64-5 USPTFULL

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A

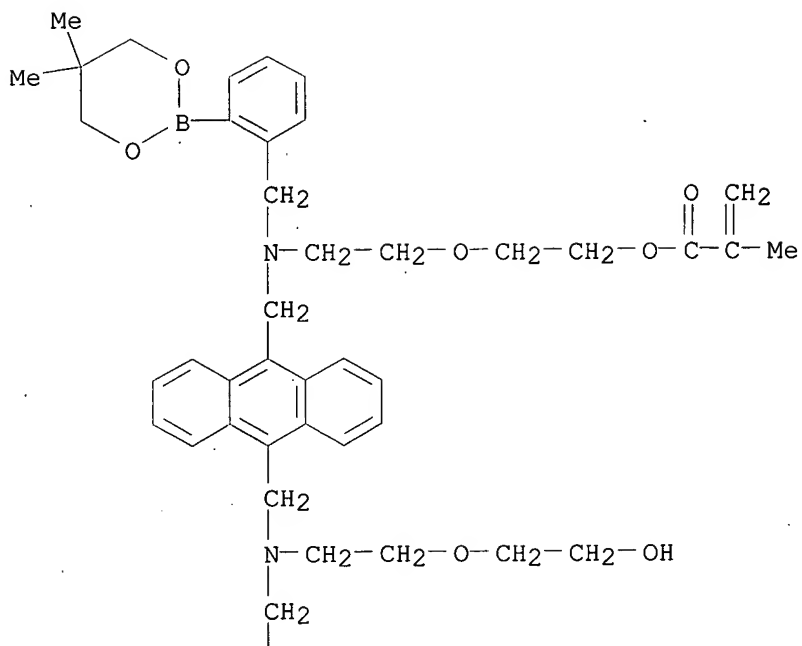


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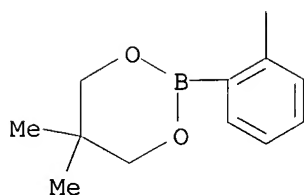


RN 399032-67-8 USPATFULL
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PAGE 1-A

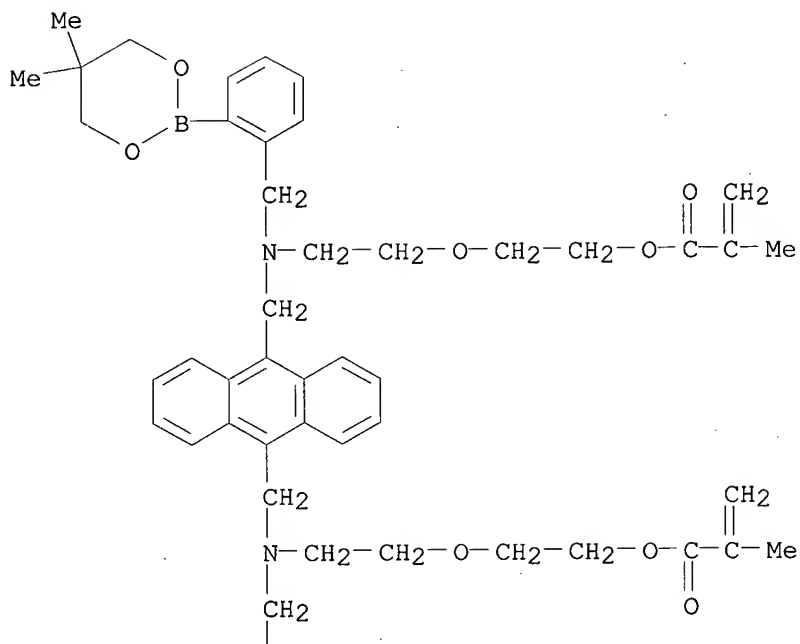


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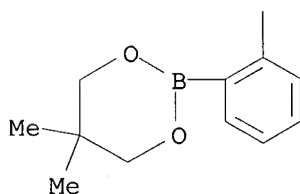


RN 399032-69-0 USPATFULL
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PAGE 1-A



PAGE 2-A



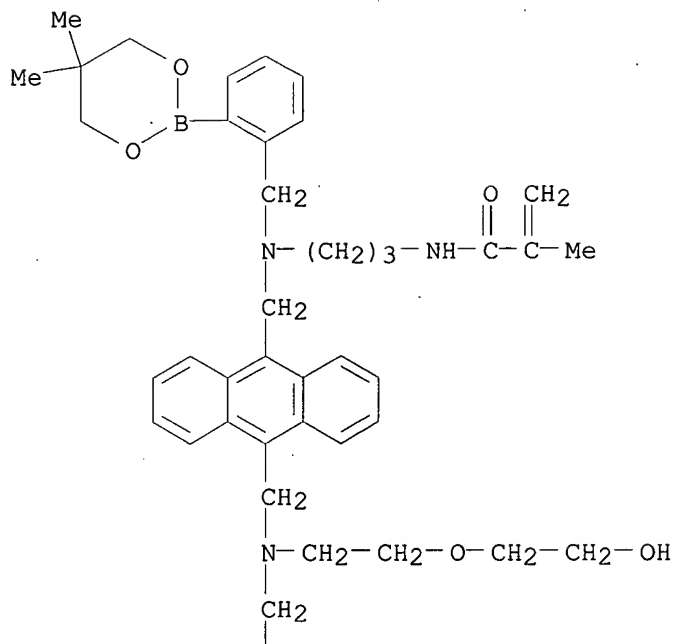
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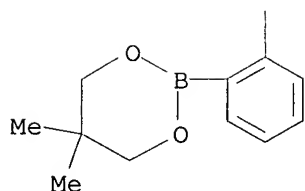
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PAGE 1-A



PAGE 2-A



L49 ANSWER 2 OF 7 USPATFULL on STN

AN 2003:17450 USPATFULL

TI Detection of analytes in aqueous environments

IN Colvin, Arthur E., JR., Mt. Airy, MD, UNITED STATES

PI US 2003013202 A1 20030116

AI US 2002-193249 A1 20020712 (10)

RLI Division of Ser. No. US 2000-632624, filed on 4 Aug 2000, PENDING

DT Utility

FS APPLICATION

LREP ROTHWELL, FIGG, ERNST & MANBECK, P.C., 1425 K STREET, N.W., SUITE 800, WASHINGTON, DC, 20005

CLMN Number of Claims: 4

ECL Exemplary Claim: 1

DRWN 2 Drawing Page(s)

LN.CNT 580

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to indicator molecules for detecting the presence or concentration of an analyte in a medium, such as a liquid, and to methods for achieving such detection. More particularly, the invention relates to copolymer macromolecules containing relatively hydrophobic indicator component monomers, and hydrophilic monomers, such that the

macromolecule is capable of use in an aqueous environment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

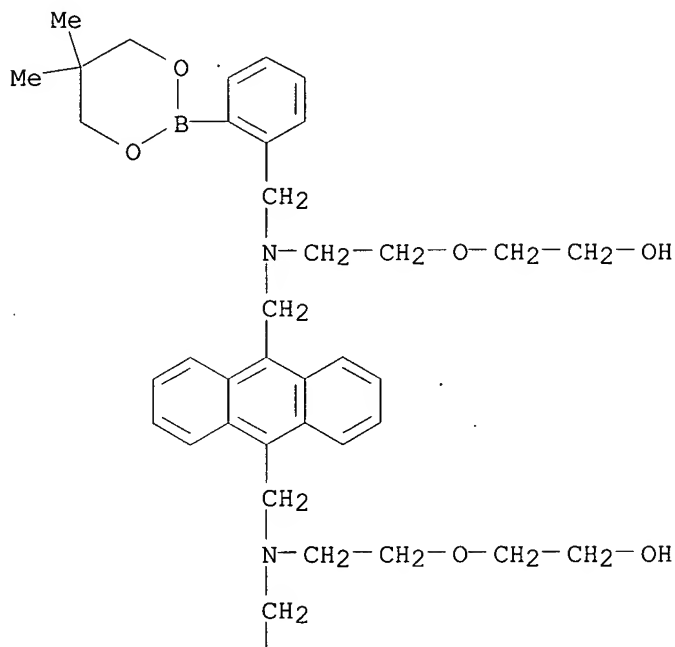
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(intermediate; fluorescent monomers and polymers for detection of analytes in aq. environments)

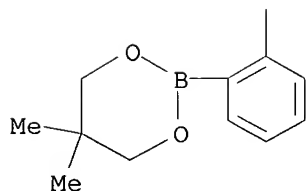
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(CA INDEX NAME)

PAGE 1-A



PAGE 2-A



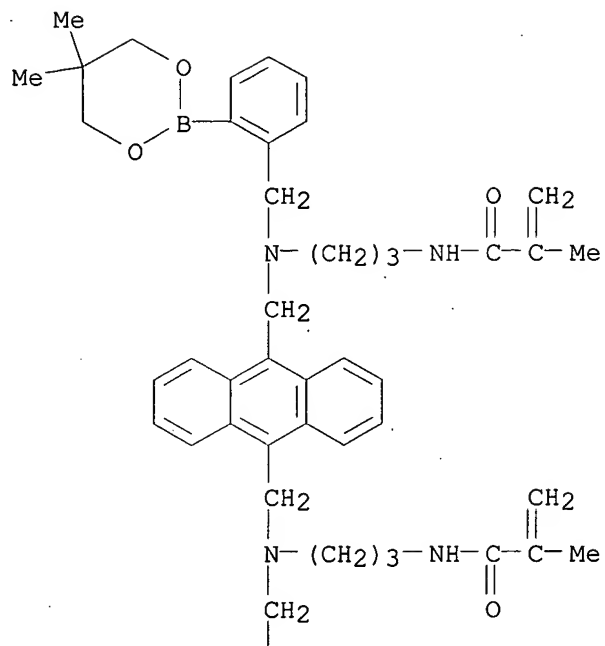
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(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

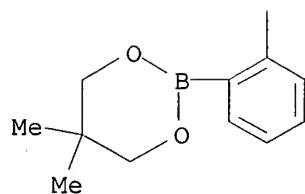
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PAGE 1-A

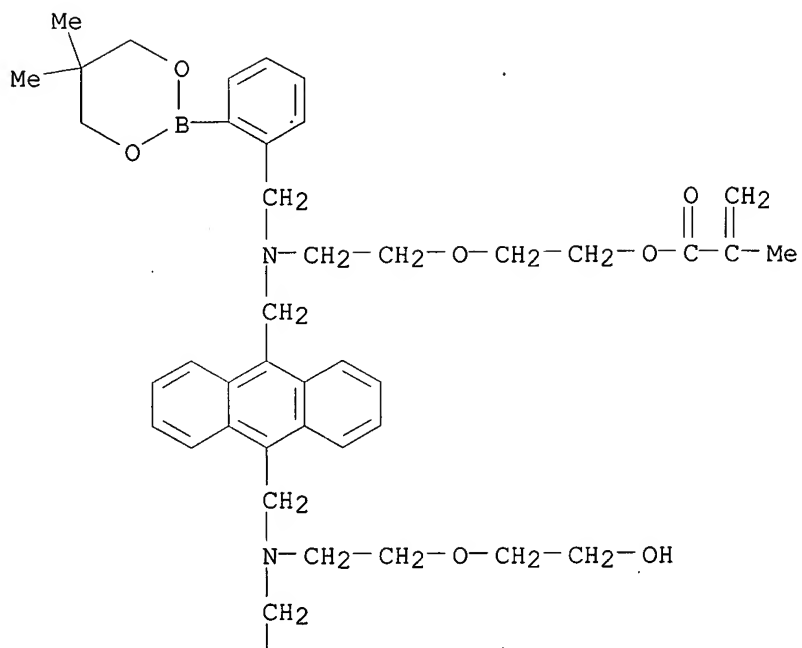


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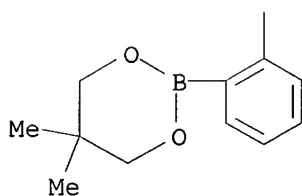


RN 399032-67-8 USPATFULL
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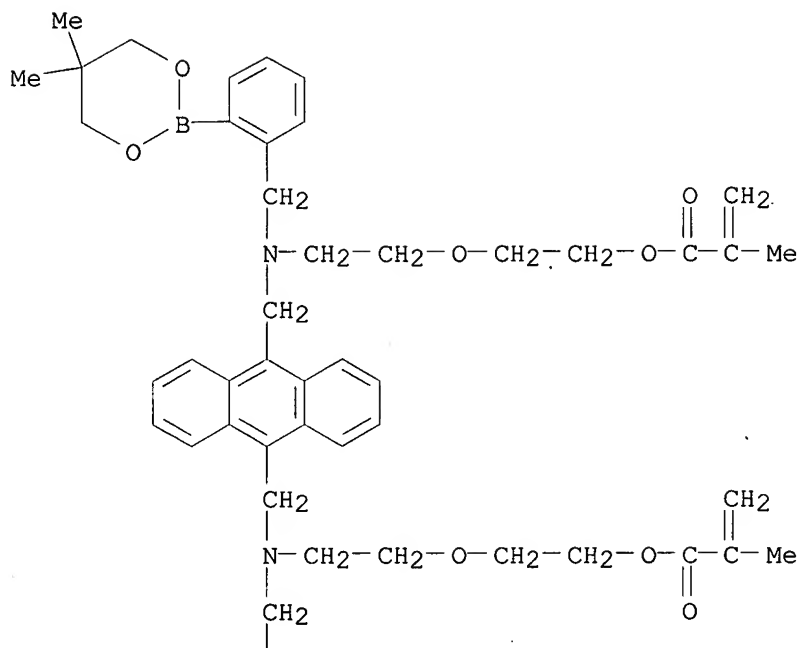


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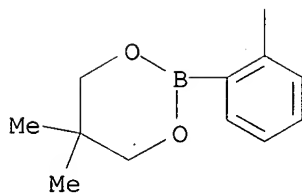


RN 399032-69-0 USPATFULL
 CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



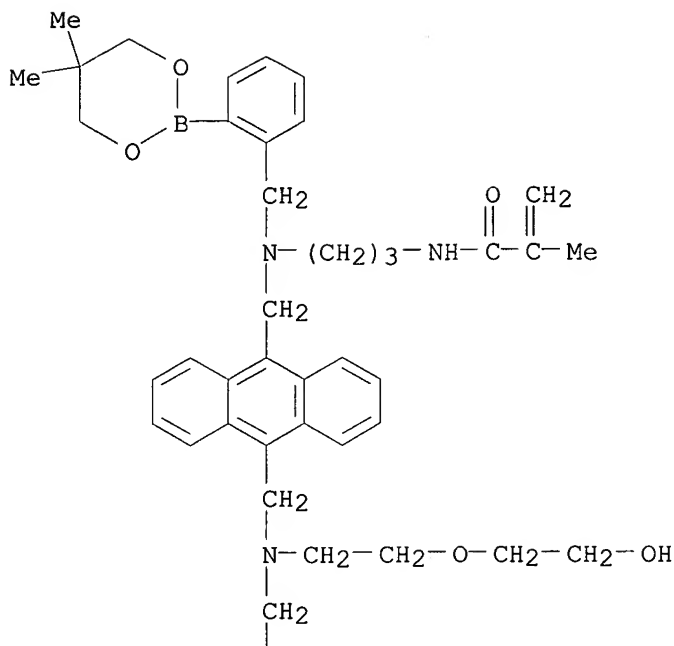
IT 399032-62-3

(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

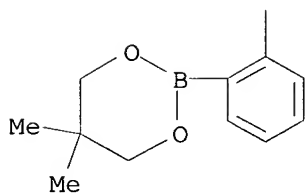
RN 399032-62-3 USPATFULL

CN 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L49 ANSWER 3 OF 7 USPATFULL on STN

AN 2003:10713 USPATFULL

TI Detection of analytes in aqueous environments

IN Colvin, Arthur E., JR., Mt. Airy, MD, UNITED STATES

PI US 2003008408 A1 20030109

AI US 2002-193244 A1 20020712 (10)

RLI Division of Ser. No. US 2000-632624, filed on 4 Aug 2000, PENDING

DT Utility

FS APPLICATION

LREP ROTHWELL, FIGG, ERNST & MANBECK, P.C., 1425 K STREET, N.W., SUITE 800, WASHINGTON, DC, 20005

CLMN Number of Claims: 12

ECL Exemplary Claim: 1

DRWN 2 Drawing Page(s)

LN.CNT 613

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to indicator molecules for detecting the presence or concentration of an analyte in a medium, such as a liquid, and to methods for achieving such detection. More particularly, the invention relates to copolymer macromolecules containing relatively hydrophobic indicator component monomers, and hydrophilic monomers, such that the

macromolecule is capable of use in an aqueous environment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

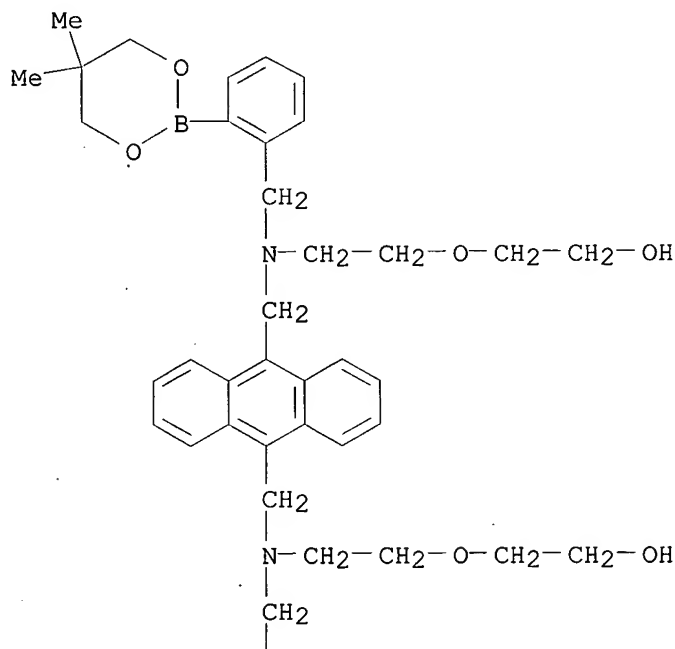
IT 399032-66-7P

(intermediate; fluorescent monomers and polymers for detection of analytes in aq. environments)

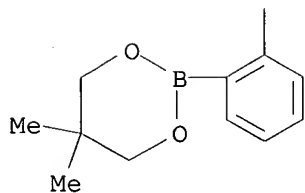
RN 399032-66-7 USPATFULL

CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- (9CI)
(CA INDEX NAME)

PAGE 1-A



PAGE 2-A



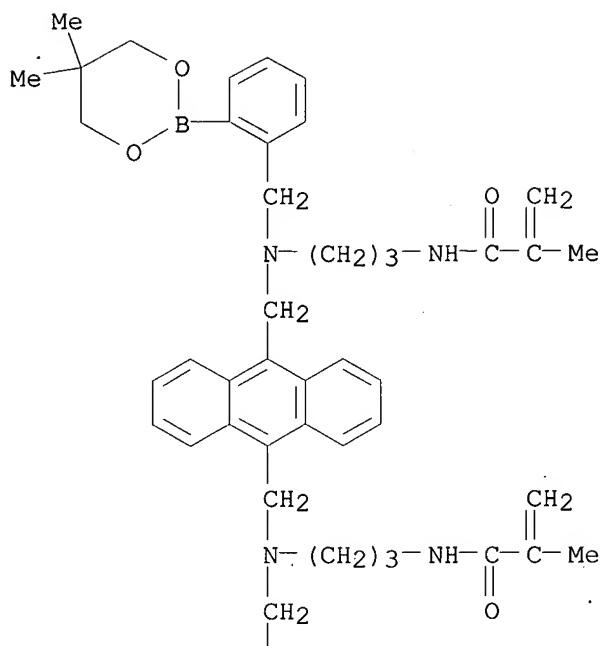
IT 399032-64-5P 399032-67-8P 399032-69-0P

(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

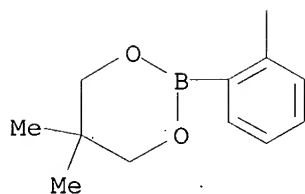
RN 399032-64-5 USPATFULL

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A

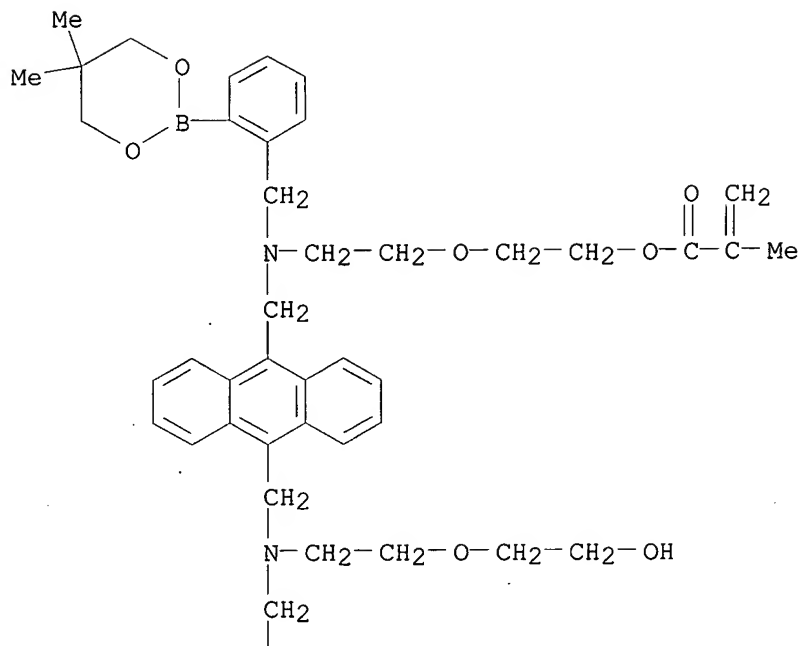


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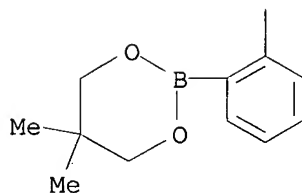


RN 399032-67-8 USPATFULL
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

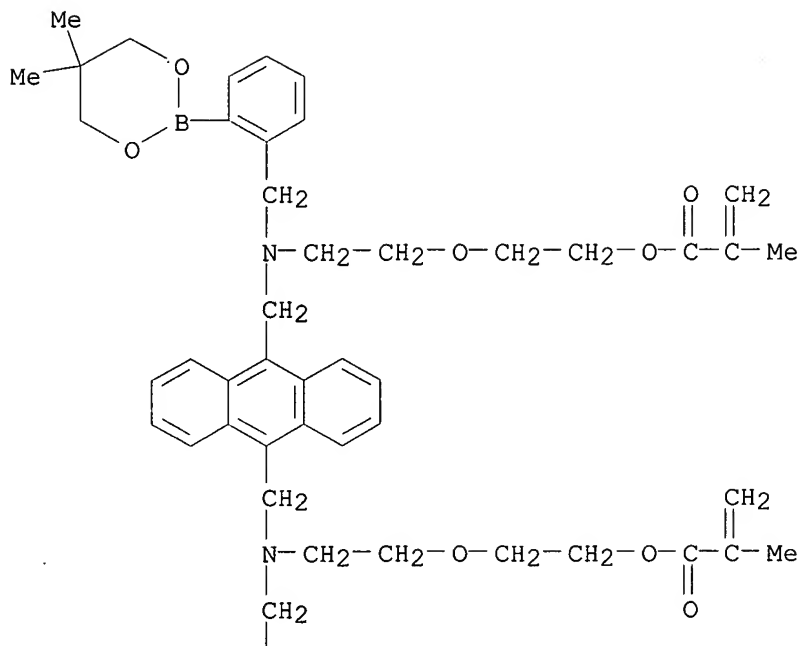


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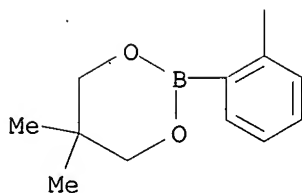


RN 399032-69-0 USPATFULL
 CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A

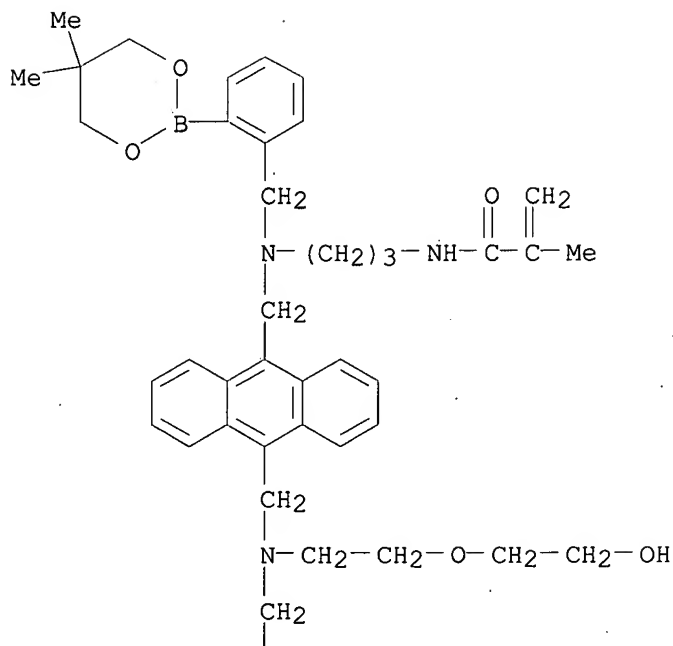


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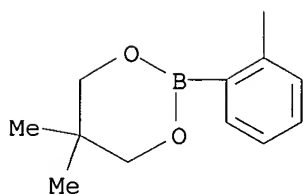


IT 399032-62-3
 (prep. and polymn.; fluorescent monomers and polymers for detection of
 analytes in aq. environments)
 RN 399032-62-3 USPATFULL
 CN 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L49 ANSWER 4 OF 7 USPATFULL on STN

AN 2003:3557 USPATFULL

TI Detection of analytes in aqueous environments

IN Colvin, Arthur E., JR., Mt. Airy, MD, UNITED STATES

PI US 2003003592 A1 20030102

AI US 2002-193246 A1 20020712 (10)

RLI Division of Ser. No. US 2000-632624, filed on 4 Aug 2000, PENDING

DT Utility

FS APPLICATION

LREP ROTHWELL, FIGG, ERNST & MANBECK, P.C., 1425 K STREET, N.W., SUITE 800, WASHINGTON, DC, 20005

CLMN Number of Claims: 11

ECL Exemplary Claim: 1

DRWN 2 Drawing Page(s)

LN.CNT 598

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to indicator molecules for detecting the presence or concentration of an analyte in a medium, such as a liquid, and to methods for achieving such detection. More particularly, the invention relates to copolymer macromolecules containing relatively hydrophobic indicator component monomers, and hydrophilic monomers, such that the

macromolecule is capable of use in an aqueous environment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

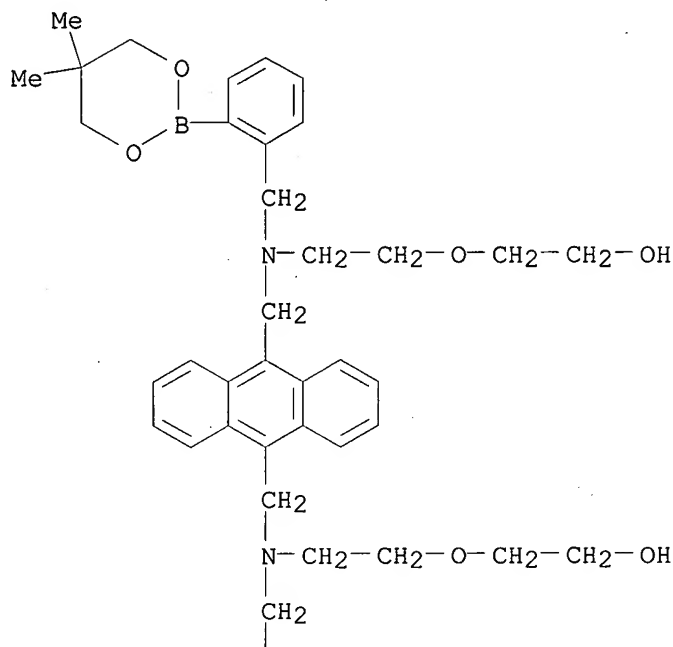
IT 399032-66-7P

(intermediate; fluorescent monomers and polymers for detection of analytes in aq. environments)

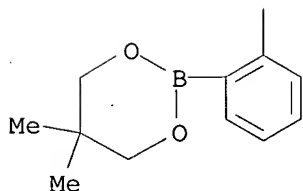
RN 399032-66-7 USPTFULL

CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- (9CI)
(CA INDEX NAME)

PAGE 1-A



PAGE 2-A



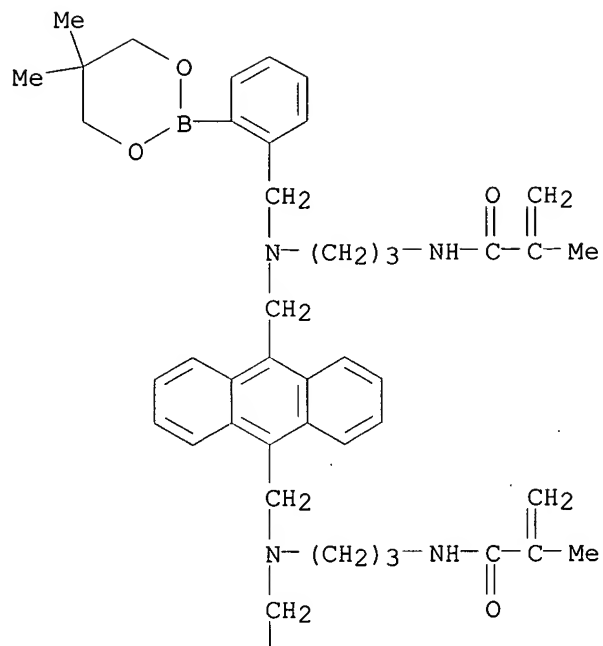
IT 399032-64-5P 399032-67-8P 399032-69-0P

(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

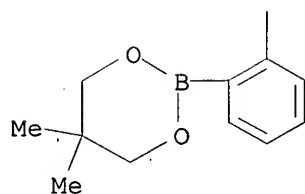
RN 399032-64-5 USPTFULL

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A

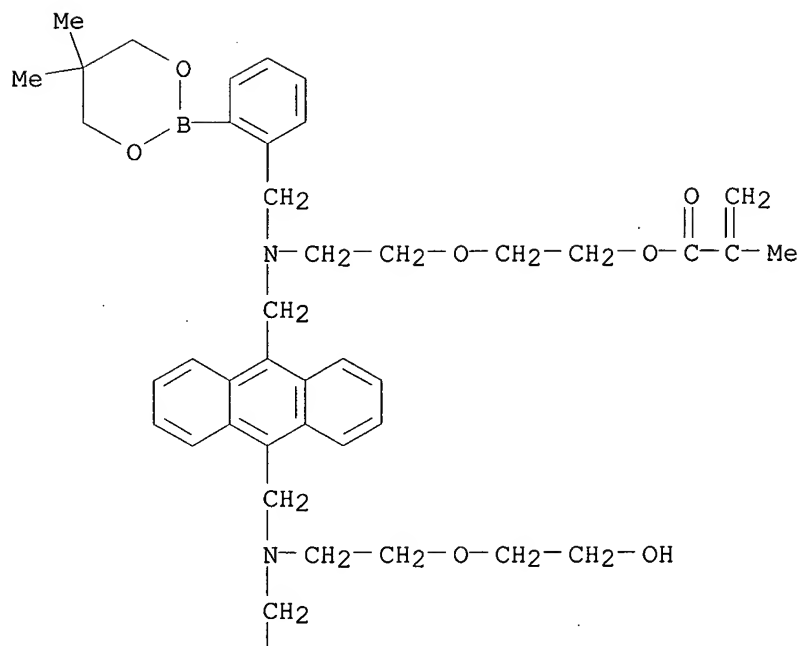


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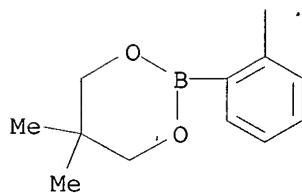


RN 399032-67-8 USPATFULL
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

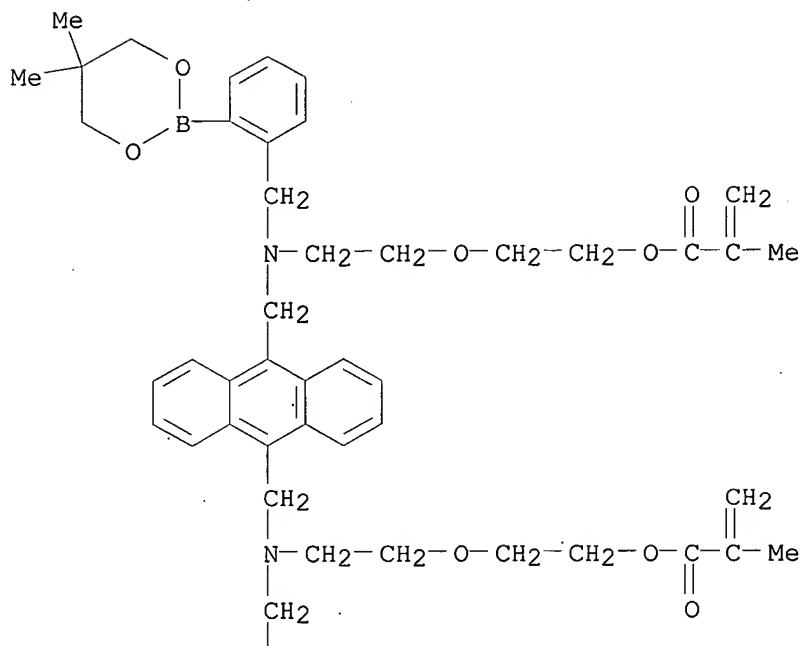


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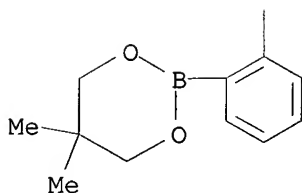


RN 399032-69-0 USPATFULL
 CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 399032-62-3

(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

RN 399032-62-3 USPATFULL

CN 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- (9CI) (CA INDEX NAME)

which may undergo a molecular configurational change upon exposure to the analyte. The configurational change affects a detectable quality associated with the indicator system, thereby allowing detection of the presence or concentration of the analyte.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

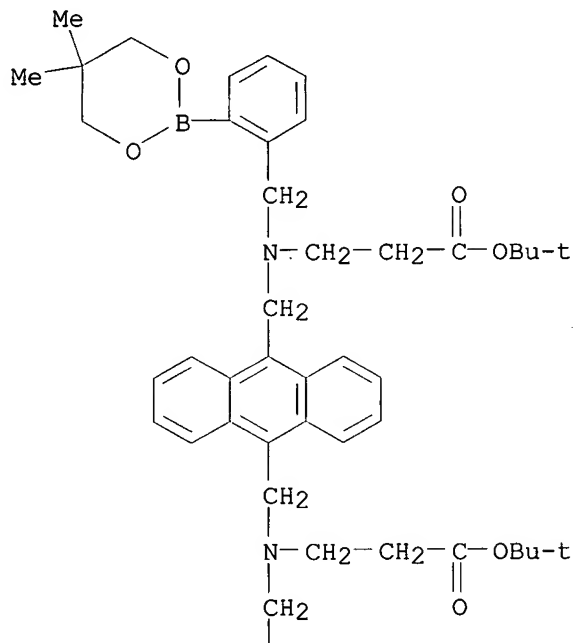
IT **440666-19-3P 440666-20-6P**

(detection of analytes)

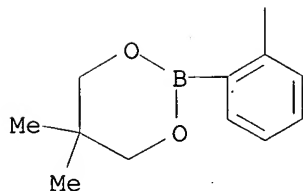
RN 440666-19-3 USPATFULL

CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



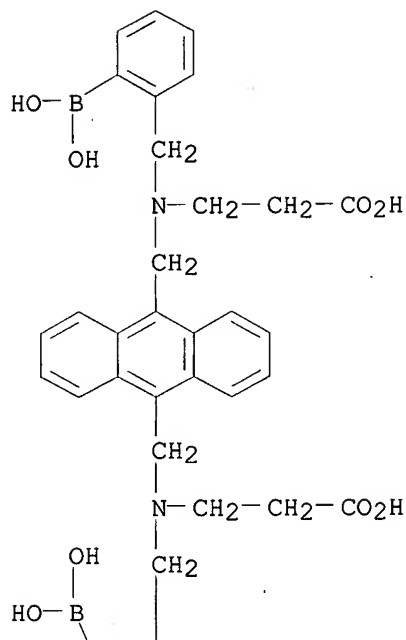
PAGE 2-A



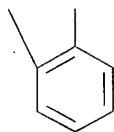
RN 440666-20-6 USPATFULL

CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[(2-boronophenyl)methyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L49 ANSWER 6 OF 7 USPATFULL on STN
 AN 2002:171985 USPATFULL
 TI Detection of glucose in solutions also containing an alpha-hydroxy acid or a beta-diketone
 IN **Daniloff, George Y.**, N. Potomac, MD, UNITED STATES
 Kalivretenos, Aristotle G., Columbia, MD, UNITED STATES
 Nikolaitchik, Alexandre V., Damascus, MD, UNITED STATES
 PI US 2002090734 A1 20020711
 AI US 2001-754217 A1 20010105 (9)
 DT Utility
 FS APPLICATION
 LREP ROTHWELL, FIGG, ERNST & MANBECK, P.C., 1425 K STREET, N.W., SUITE 800, WASHINGTON, DC, 20005
 CLMN Number of Claims: 28
 ECL Exemplary Claim: 1
 DRWN 8 Drawing Page(s)
 LN.CNT 1148
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB Compositions and methods for determining the presence or concentration of glucose in a sample which may also contain an alpha-hydroxy acid or a beta-diketone. The method uses a compound having at least two recognition elements for glucose, oriented such that the interaction between the compound and glucose is more stable than the interaction

between the compound and the alpha-hydroxy acid or beta-diketone, such that the presence of the alpha-hydroxy acid or the beta-diketone does not substantially interfere with said determination.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

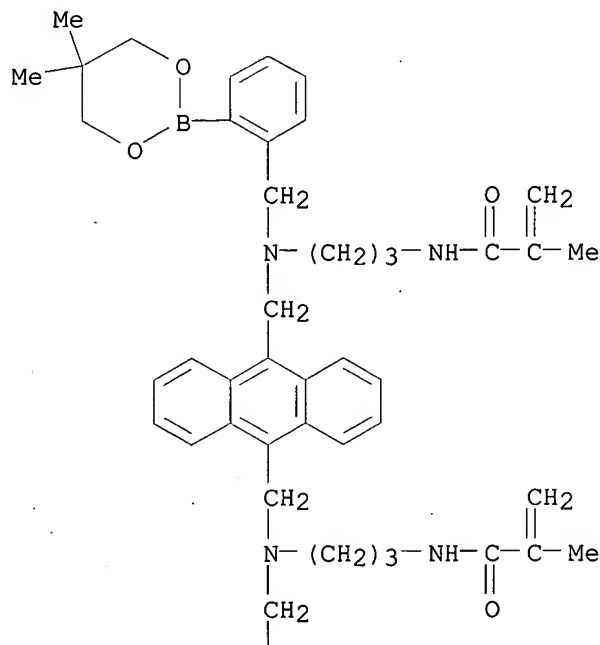
IT 399032-64-5

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

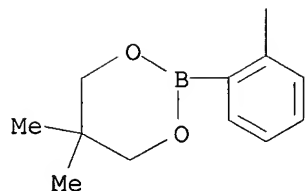
RN 399032-64-5 USPATFULL

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



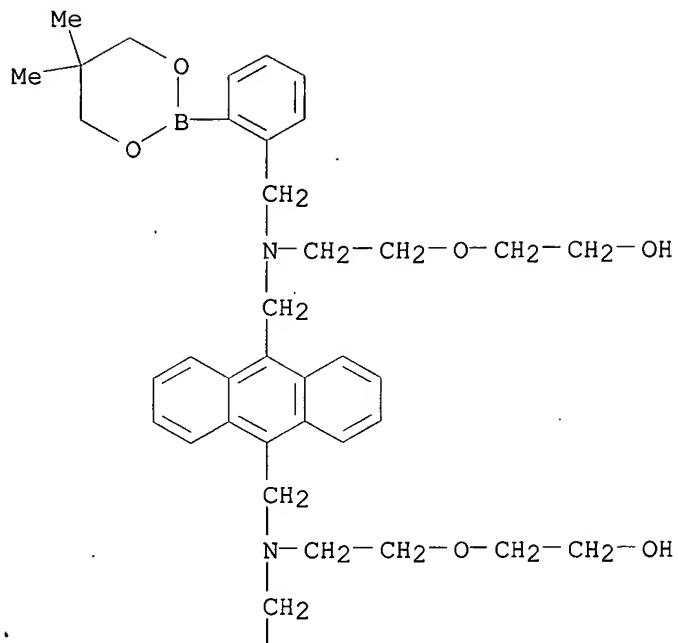
IT 399032-66-7P 399032-67-8P

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

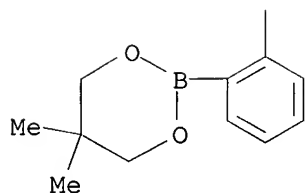
RN 399032-66-7 USPATFULL

CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanedioxy]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

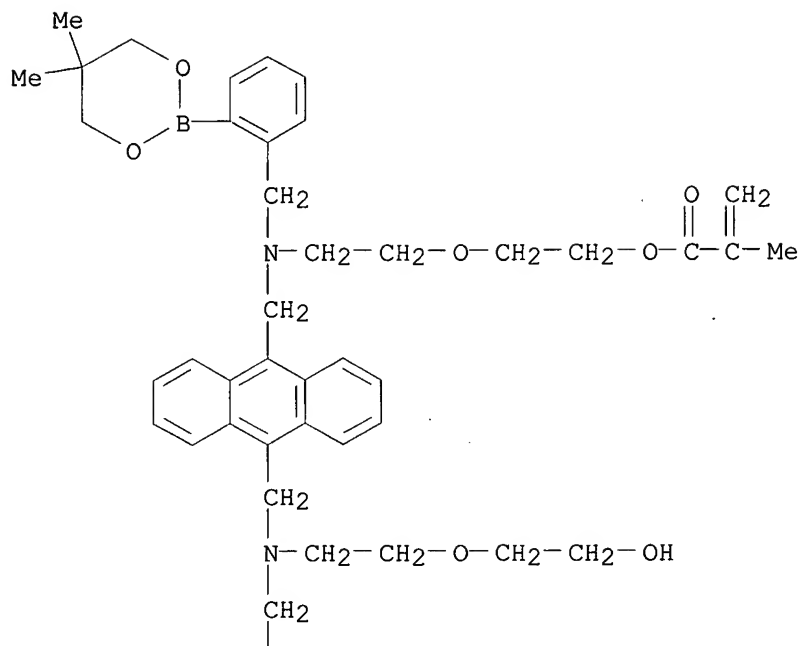


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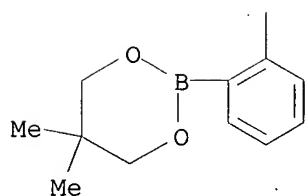


RN 399032-67-8 USPATFULL
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



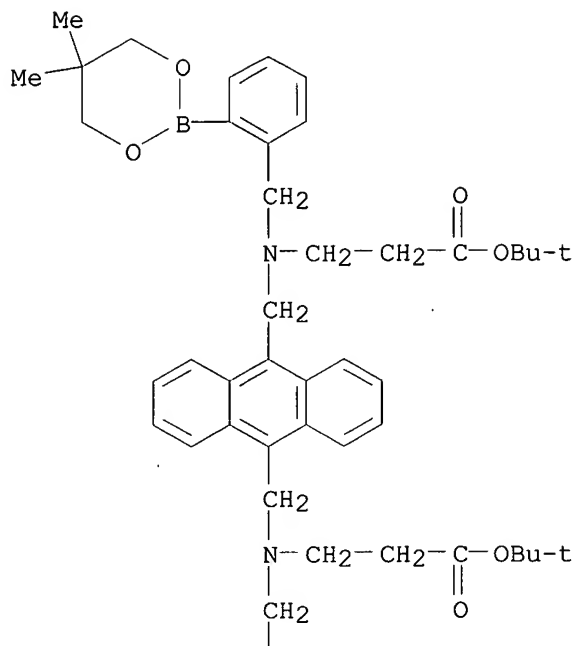
IT 440666-19-3P 441011-77-4P

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

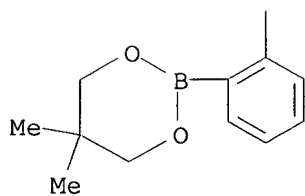
RN 440666-19-3 USPATFULL

CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



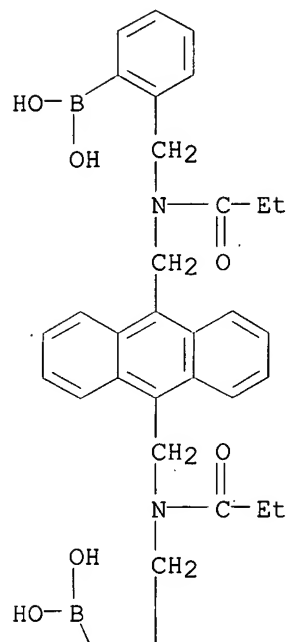
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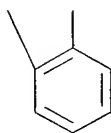
RN 441011-77-4 USPATFULL

CN Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L49 ANSWER 7 OF 7 USPATFULL on STN
 AN 2002:72656 USPATFULL
 TI Detection of analytes in aqueous environments
 IN Colvin, Arthur E., JR., Mt. Airy, MD, UNITED STATES
 PA **Sensors for Medicine and Science, Inc.**, Germantown, MD (U.S. corporation)
 PI US 2002039793 A1 20020404
 AI US 2001-920627 A1 20010803 (9)
 RLI Continuation-in-part of Ser. No. US 2000-632624, filed on 4 Aug 2000, PENDING
 DT Utility
 FS APPLICATION
 LREP ROTHWELL, FIGG, ERNST & MANBECK, P.C., 555 13TH STREET, N.W., SUITE 701, EAST TOWER, WASHINGTON, DC, 20004
 CLMN Number of Claims: 59
 ECL Exemplary Claim: 1
 DRWN 9 Drawing Page(s)
 LN.CNT 1437
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB The invention relates to indicator molecules for detecting the presence or concentration of an analyte in a medium, such as a liquid, and to methods for achieving such detection. More particularly, the invention relates to copolymer macromolecules containing relatively hydrophobic

indicator component monomers, and hydrophilic monomers, such that the macromolecule is capable of use in an aqueous environment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

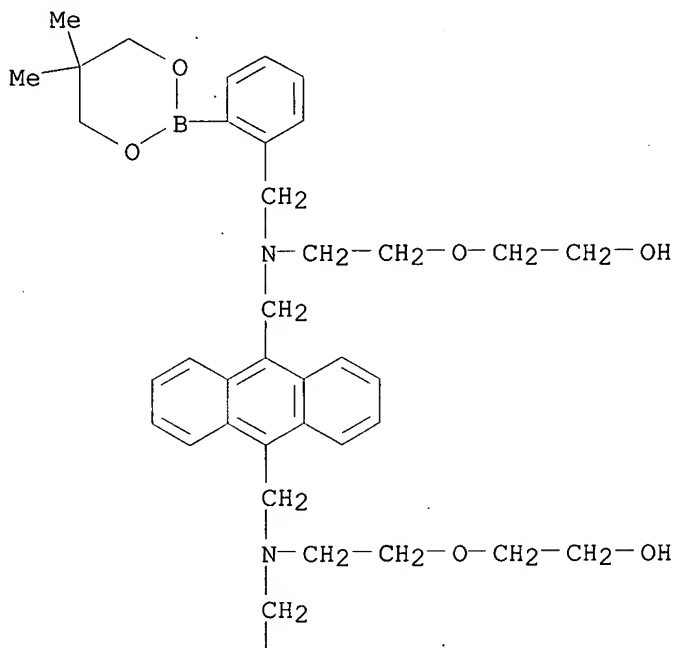
IT 399032-66-7P 399032-67-8P 399032-69-0P

(detection of analytes in aq. environments)

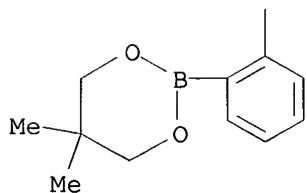
RN 399032-66-7 USPATFULL

CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- (9CI)
(CA INDEX NAME)

PAGE 1-A



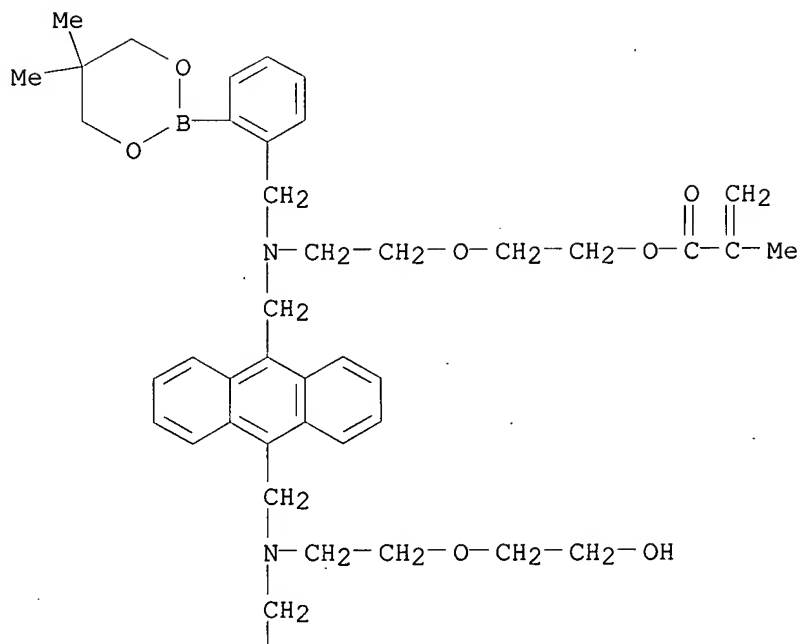
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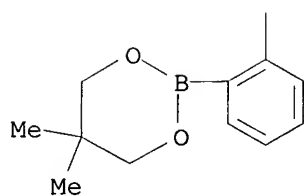
RN 399032-67-8 USPATFULL

CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



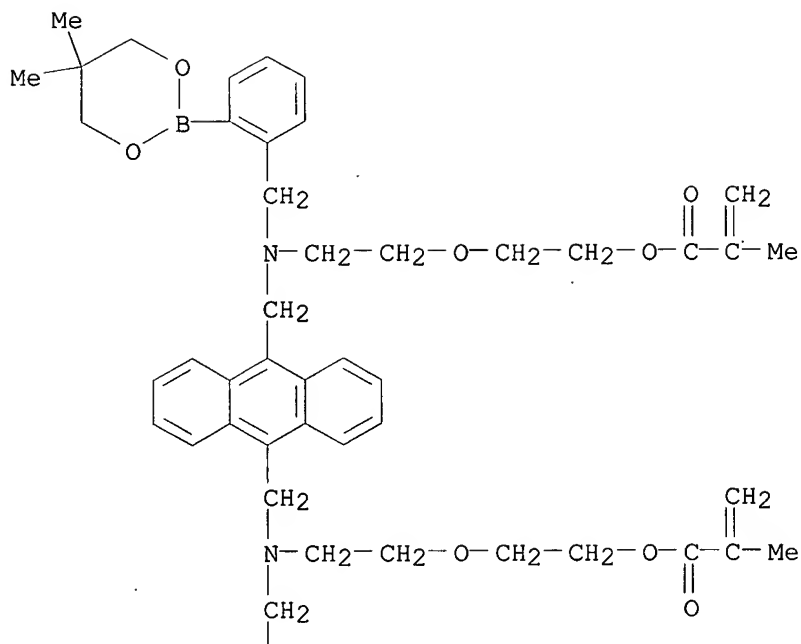
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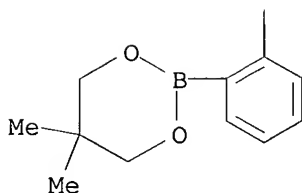
RN 399032-69-0 USPATFULL

CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A

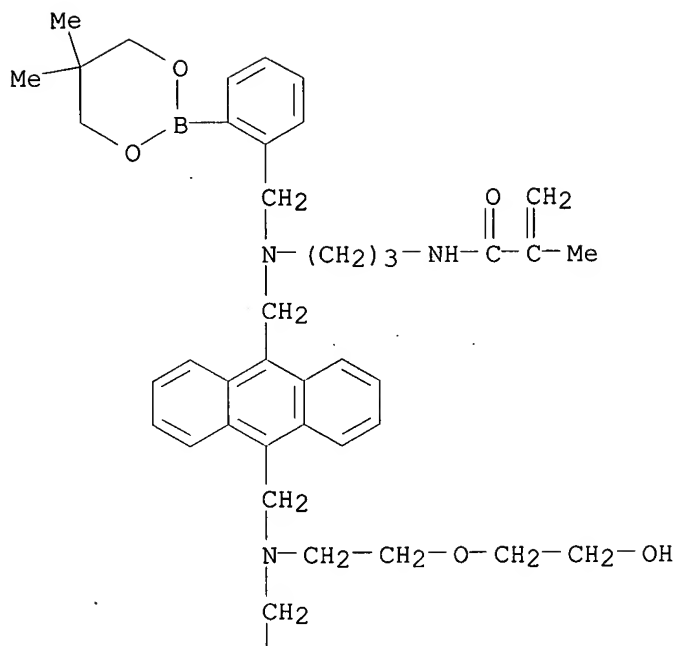


PAGE 2-A

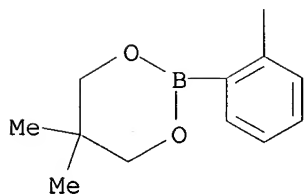


IT 399032-62-3P 399032-64-5P 408306-38-7P
 408306-39-8P 408306-40-1P 408306-41-2P
 408306-42-3P
 (detection of analytes in aq. environments)
 RN 399032-62-3 USPATFULL
 CN 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



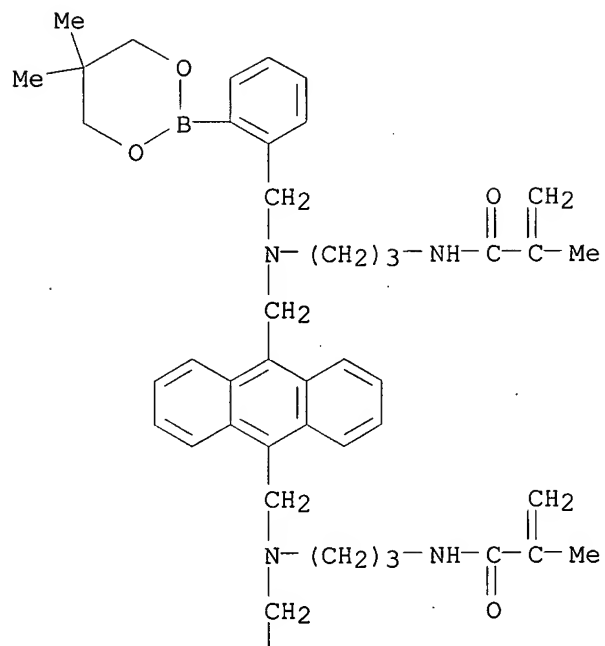
PAGE 2-A



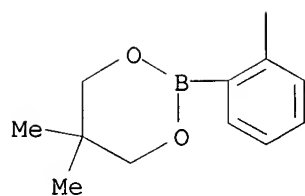
RN 399032-64-5 USPATFULL

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A

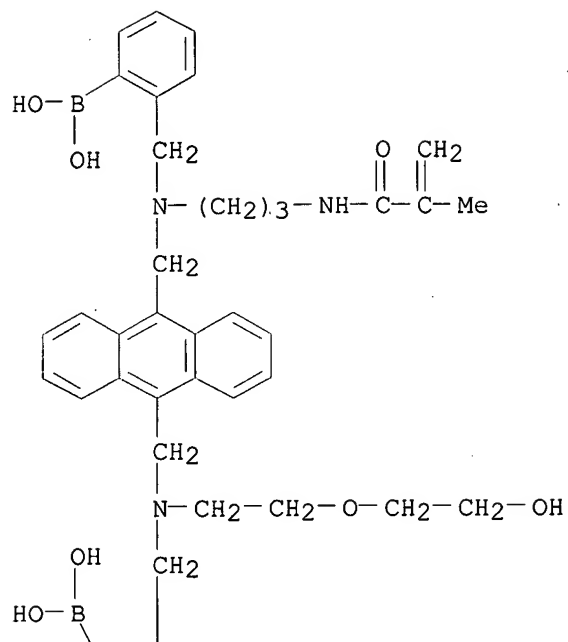


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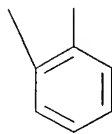


RN 408306-38-7 USPATFULL
 CN Boronic acid, [2-[[[10-[[[(2-boronophenyl)methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl][3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]amino]methyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

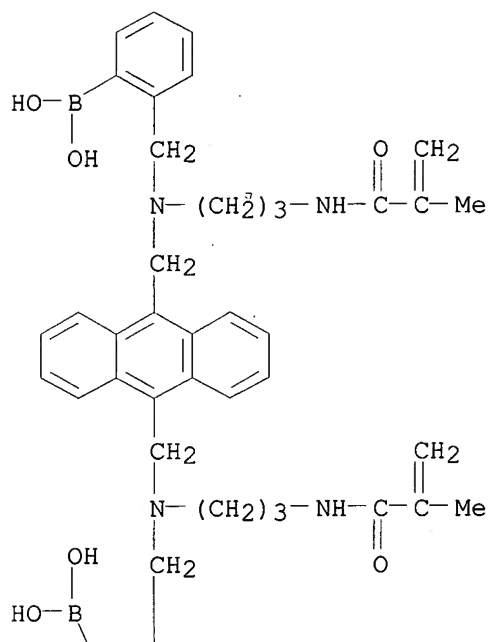


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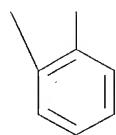


RN 408306-39-8 USPATFULL
 CN Boronic acid, [9,10-anthracenediylbis[methylene[[3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

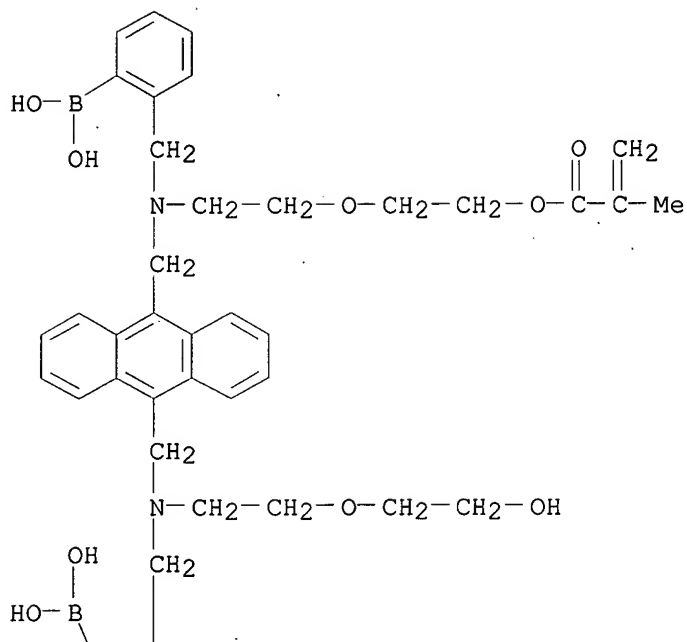


PAGE 2-A

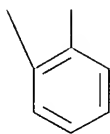


RN 408306-40-1 USPATFULL
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[(2-boronophenyl)methyl][[10-[[[(2-boronophenyl)methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

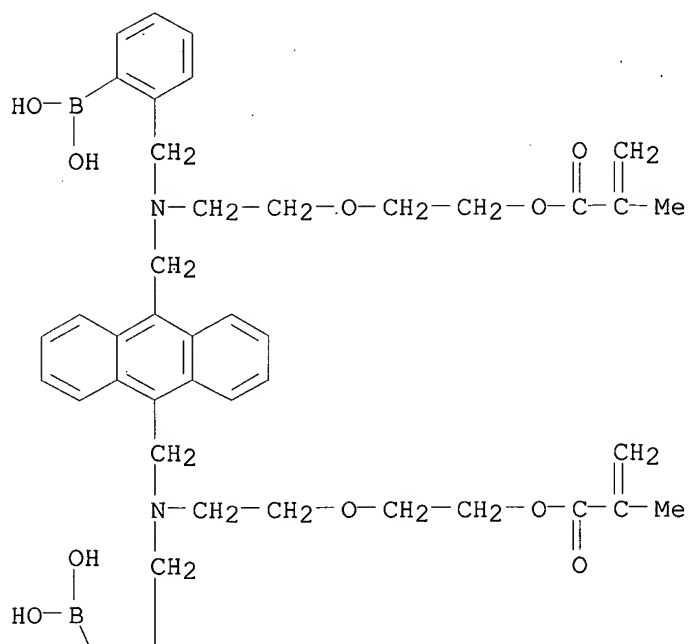


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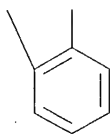


RN 408306-41-2 USPATFULL
 CN Boronic acid, [9,10-anthracenediylbis[methylene[[2-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl]imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

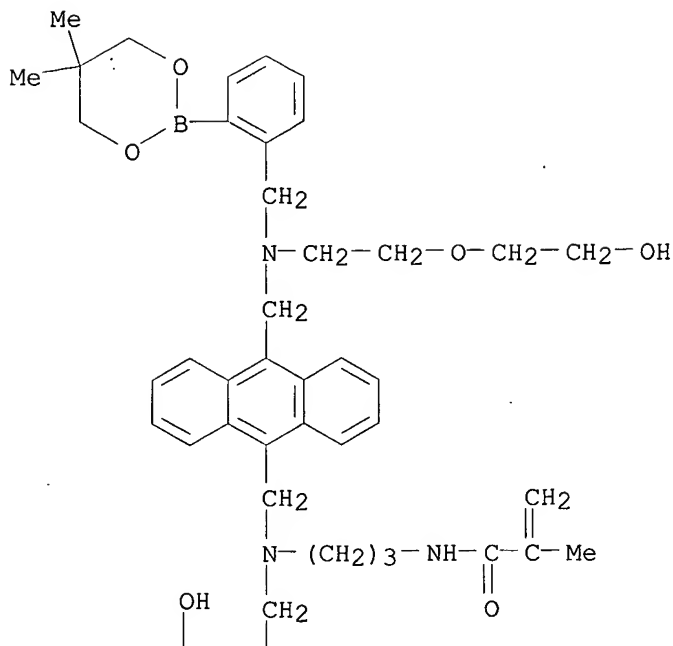


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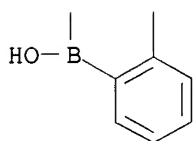


RN 408306-42-3 USPATFULL
 CN Boronic acid, [2-[[[[[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl][3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]amino]methyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



=> fil hcaplus

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FILE COVERS 1907 - 6 Aug 2003 VOL 139 ISS 6

FILE LAST UPDATED: 5 Aug 2003 (20030805/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 152 all hitstr tot

L52 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:334531 HCAPLUS
 DN 138:334060
 TI Detection of glucose in solutions also containing an alpha-hydroxy acid or a beta-diketone
 IN Daniloff, George Y.; Kalivretenos, Aristotle G.; Nikolaitchik, Alexandre V.
 PA USA
 SO U.S. Pat. Appl. Publ., 49 pp., Cont.-in-part of U.S. Ser. No. 29,184.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C12Q001-54
 ICS G01N033-00
 NCL 435014000; 436095000
 CC 9-16 (Biochemical Methods)
 Section cross-reference(s): 63
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003082663	A1	20030501	US 2002-187903	20020703
	US 2002090734	A1	20020711	US 2001-754217	20010105
	US 2002127626	A1	20020912	US 2001-29184	20011228 <--
PRAI	US 2001-754217	A2	20010105		
	US 2001-269887P	P	20010221		
	US 2001-329746P	P	20011018		
	US 2001-29184	A2	20011228		
	US 2002-363885P	P	20020314		
AB	Compns. and methods for detg. the presence or concn. of glucose in a sample which may also contain an alpha-hydroxy acid or a beta-diketone. The method uses a compd. having at least two recognition elements for glucose, oriented such that the interaction between the compd. and glucose is more stable than the interaction between the compd. and the alpha-hydroxy acid or beta-diketone, such that the presence of the alpha-hydroxy acid or the beta-diketone does not substantially interfere with said detn.				
ST	glucose detection soln alpha hydroxy acid beta diketone				
IT	Ketones, analysis RL: ARU (Analytical role, unclassified); ANST (Analytical study) (1,3-diketones; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)				
IT	Functional groups (Boronic acid; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)				
IT	Atoms (Heteroatoms; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)				
IT	Medical goods (Implantable; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)				
IT	Buffers (Physiol.; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)				
IT	Functional groups (Vicinal diol; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)				
IT	Carboxylic acids, uses RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (aliph., compds. contg.; detection of glucose in solns. also contg.)				

- alpha-hydroxy acid or a beta-diketone)
- IT Atoms
Blood analysis
Blood plasma
Blood serum
Body fluid
Cerebrospinal fluid
Composition
Concentration (condition)
Fluorescence
Fluorescence quenching
Fluorescent substances
Fluorometry
Hydrolysis
Immobilization, molecular
Indicators
Linking agents
Lymph
Molecules
Reaction
Saliva
Samples
Solids
Solutions
Stability
Sweat
Tear (ocular fluid)
Urine analysis
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)
- IT Polymers, analysis
Silica gel, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)
- IT Body fluid
 (interstitial; detection of glucose in solns. also contg. alpha-hydroxy
 acid or a beta-diketone)
- IT Eye
 (intraocular fluid; detection of glucose in solns. also contg.
 alpha-hydroxy acid or a beta-diketone)
- IT Acids, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (oxo, .alpha.-; detection of glucose in solns. also contg.
 alpha-hydroxy acid or a beta-diketone)
- IT 50-99-7, D-Glucose, analysis
RL: ANT (Analyte); ANST (Analytical study)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)
- IT 541-50-4, 3-Oxo-butanoic acid, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); PRP (Properties);
ANST (Analytical study)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)
- IT 79-09-4D, Propionic acid, compds. contg. 81-83-4D, Naphthalimide,
compds. contg. 110-82-7D, Hexamethylene, compds. contg. 120-12-7D,
Anthracene, compds. contg. 124-40-3D, Dimethylamine, compds. contg.
1333-74-0D, Hydrogen, compds. contg. 7440-44-0D, Carbon, compds. contg.
7704-34-9D, Sulfur, compds. contg. 7723-14-0D, Phosphorus, compds.
contg. 7727-37-9D, Nitrogen, compds. contg. 7782-44-7D, Oxygen,
compds. contg. 11120-48-2D, Telluric acid, compds. contg. 12134-79-1D,
Germanic acid, compds. contg. 13464-58-9D, Arsenious acid, compds.
contg. 13780-71-7D, Boronic acid, compds. contg. 15502-74-6D,

Arsenite, compds. contg. 29256-93-7D, compds. contg. 53112-54-2D,
Tellurate ion, compds. contg.

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a
beta-diketone)

IT 50-21-5, analysis

RL: ARU (Analytical role, unclassified); PRP (Properties); ANST
(Analytical study)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a
beta-diketone)

IT 79-41-4, Methacrylic acid, reactions 81-86-7 100-10-7,
4-Dimethylaminobenzaldehyde 110-18-9, N,N,N',N',-
Tetramethylethylenediamine 110-26-9, n,n'-Methylenebisacrylamide
124-09-4, 1,6-Diaminohexane, reactions 128-37-0, reactions 130-22-3
623-27-8, 1,4-Benzenedicarboxaldehyde 645-36-3, Aminoacetaldehyde
diethyl acetal 929-06-6, 2-(2-Aminoethoxy)ethanol 2680-03-7,
n,n-Dimethylacrylamide 5039-78-1, TMAMA 6192-52-5, p-Toluenesulfonic
acid monohydrate 7087-68-5, Diea 10387-13-0, 9,10-
Bis(chloromethyl)anthracene 24463-19-2, 9-Chloromethylantracene
31922-97-1 51410-72-1, MAPTAC 57951-36-7 58620-93-2 72607-53-5,
N-(3-Aminopropyl)methacrylamide hydrochloride 79238-88-3
399032-64-5 399032-71-4 441011-76-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a
beta-diketone)

IT 108366-02-5P 259660-47-4P 399032-57-6P **399032-66-7P**
399032-67-8P 399032-72-5P 399032-73-6P 440665-99-6P
440666-00-2P 440666-01-3P 440666-02-4P 440666-03-5P 440666-18-2P
441011-75-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a
beta-diketone)

IT 399032-68-9P 440665-90-7P 440665-98-5P **440666-19-3P**
441011-74-1DP, derivs. **441011-77-4P**

RL: SPN (Synthetic preparation); PREP (Preparation)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a
beta-diketone)

IT **399032-64-5**

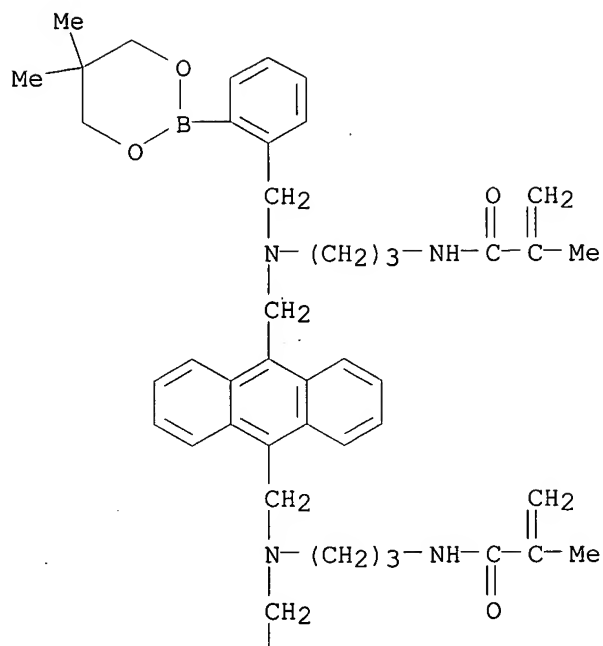
RL: RCT (Reactant); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a
beta-diketone)

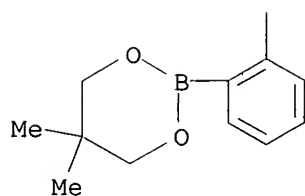
RN 399032-64-5 HCAPLUS

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-
1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl-
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 399032-66-7P 399032-67-8P

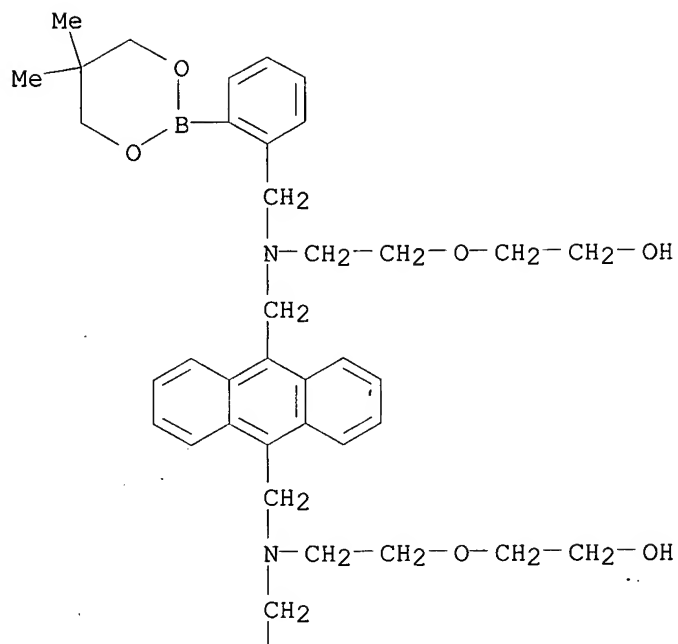
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

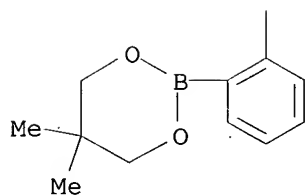
RN 399032-66-7 HCAPLUS

CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

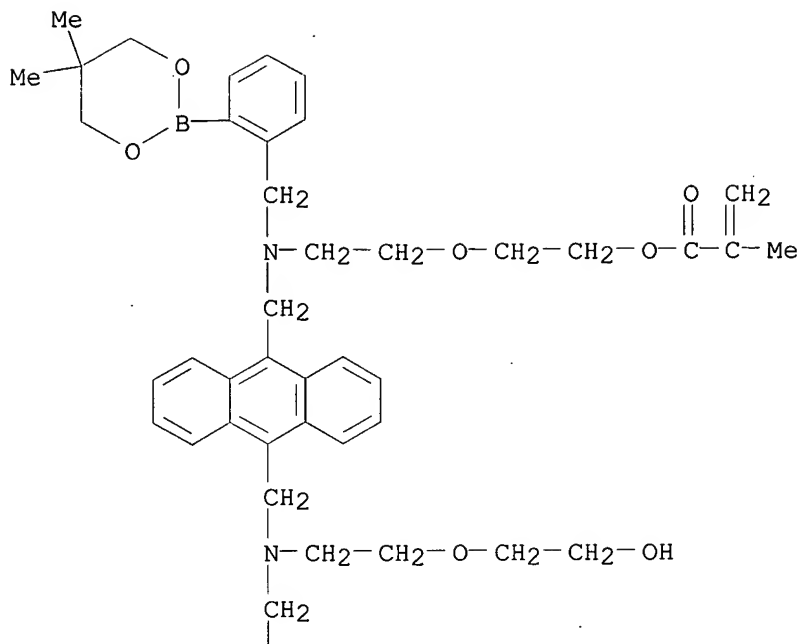


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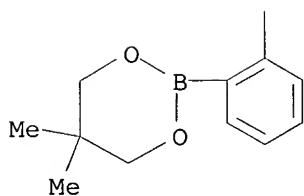


RN 399032-67-8 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 440666-19-3P 441011-77-4P

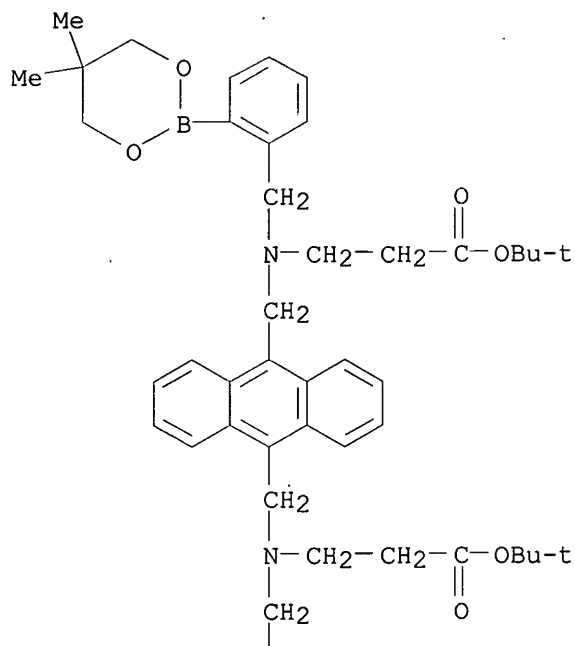
RL: SPN (Synthetic preparation); PREP (Preparation)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

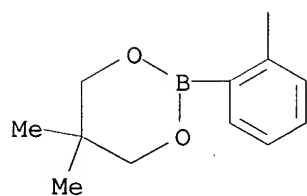
RN 440666-19-3 HCAPLUS

CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A

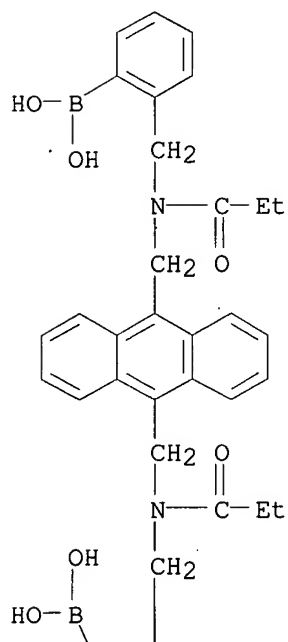


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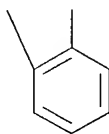


RN 441011-77-4 HCAPLUS
 CN Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L52 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:696548 HCAPLUS
 DN 137:181947
 TI Detection of glucose in solutions also containing an alpha-hydroxy acid or a beta-diketone
 IN **Daniloff, George Y.; Kalivretenos, Aristotle G.; Nikolaitchik, Alexandre V.**
 PA **Sensors for Medicine and Science, Inc., USA**
 SO U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of U.S. Ser. No. 754,217.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C12Q001-54
 ICS G01N033-00
 NCL 435014000
 CC 9-16 (Biochemical Methods)
 Section cross-reference(s): 63

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 2002127626	A1	20020912	US 2001-29184	20011228	<--
	US 2002090734	A1	20020711	US 2001-754217	20010105	
	WO 2002057788	A2	20020725	WO 2002-US199	20020104	

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003082663 A1 20030501 US 2002-187903 20020703

PRAI US 2001-754217 A2 20010105
 US 2001-269887P P 20010221
 US 2001-329746P P 20011018
 US 2001-29184 A 20011228
 US 2002-363885P P 20020314

OS MARPAT 137:181947

AB The invention concerns compns. and methods for detg. the presence or
 concn. of glucose in a sample which may also contain an alpha-hydroxy acid
 or a beta-diketone. The method uses a compd. having at least two
 recognition elements for glucose, oriented such that the interaction
 between the compd. and glucose is more stable than the interaction between
 the compd. and the alpha-hydroxy acid or beta-diketone, such that the
 presence of the alpha-hydroxy acid or the beta-diketone does not
 substantially interfere with said detn.

ST glucose soln alpha hydroxy acid beta diketone

IT Atoms

Blood analysis

Blood plasma

Blood serum

Body fluid

Buffers

Cerebrospinal fluid

Concentration (condition)

Eye

Fluorescence quenching

Fluorescent substances

Fluorometry

Functional groups

Hydrolysis

Immobilization, molecular

Linking agents

Lymph

Medical goods

Saliva

Solutions

Sweat

Tear (ocular fluid)

Urine analysis

(detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)

IT Carboxylic acids, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)

IT Acids, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)

IT Ketones, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)

IT Polymers, analysis

- RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT Silica gel, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 50-99-7, D-Glucose, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 541-50-4, Butanoic acid, 3-oxo-, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 79-09-4D, Propionic acid, derivs. 81-83-4D, Naphthalimide, derivs. 110-82-7D, Hexamethylene, derivs. 120-12-7D, Anthracene, derivs. 124-40-3D, Dimethylamine, derivs. 1333-74-0D, Hydrogen, derivs. 7440-44-0D, Carbon, derivs. 7704-34-9D, Sulfur, derivs. 7723-14-0D, Phosphorus, derivs. 7727-37-9D, Nitrogen, derivs. 7782-44-7D, Oxygen, derivs. 11120-48-2D, Telluric acid, derivs. 12134-79-1D, Germanic acid, derivs. 13464-58-9D, Arsenious acid, derivs. 13780-71-7D, Boronic acid, derivs. 15502-74-6D, Arsenite, derivs. 29256-93-7D, Benzenamine, N,N,-trimethyl-, derivs. 53112-54-2D, Tellurate ion, derivs.
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT **399032-64-5P**, 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl-
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT **399032-62-3P**, 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- **399032-69-0P**, 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl ester **443290-73-1P**, Boronic acid, [9,10-anthracenediylbis[methylene[(5-aminopentyl)imino]methylene-2,1-phenylene]]bis-, bis(trifluoroacetate) **443290-76-4P**, Boronic acid, [2-[[[2-[[2-[[2-[(3-borono-5-nitrobenzoyl)amino]ethyl]-2,3-dihydro-1,3-dioxo-1H-benz[de]isoquinolin-6-yl]amino]ethyl]methylamino]methyl]phenyl]-
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 50-21-5, Propanoic acid, 2-hydroxy-, analysis
RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 79-41-4, Methacrylic acid, reactions 81-86-7, 1H,3H-Naphtho[1,8-cd]pyran-1,3-dione, 6-bromo- 100-10-7, 4-Dimethylaminobenzaldehyde 110-18-9, N,N,N',N',-Tetramethylethylenediamine 110-26-9, n,n'-Methylenebisacrylamide 124-09-4, 1,6-Diaminohexane, reactions 128-37-0, Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-, reactions 130-22-3, 2-Anthracenesulfonic acid, 9,10-dihydro-3,4-dihydroxy-9,10-dioxo-

, monosodium salt 623-27-8, 1,4-Benzenedicarboxaldehyde 645-36-3, Aminoacetaldehyde diethyl acetal 929-06-6 2680-03-7, n,n-Dimethylacrylamide 5039-78-1, Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride 6192-52-5, p-Toluenesulfonic acid monohydrate 7087-68-5, Diea 10387-13-0, 9,10-Bis(chloromethyl)anthracene 24463-19-2, 9-Chloromethylanthracene 31922-97-1, 2-Propenamide, N,N'-methylenebis-, polymer with 1,2-ethanediol and 2-propenamide 51410-72-1, MAPTAC 57951-36-7, Pyridinamine, N,N-dimethyl- 58620-93-2, .beta.-Alanine; 1,1-dimethylethyl ester, hydrochloride 72607-53-5, N-(3-Aminopropyl)methacrylamide hydrochloride 79238-88-3, 1H-Benz[de]isoquinoline-1,3(2H)-dione, 6-(butylamino)- 399032-71-4, 2-Propenamide, N-[3-[[[9,10-dihydro-3,4-dihydroxy-9,10-dioxo-2-anthracenyl)sulfonyl]amino]propyl]-2-methyl- 441011-76-3, Boronic acid, [2-(bromomethyl)phenyl]-, mono(2,2-dimethylpropyl) ester
 RL: RCT (Reactant); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 108366-02-5P, Ethanol, 2,2'-[9,10-anthracenediylbis(methyleneimino-2,1-ethanediylloxy)]bis- 259660-47-4P, 2-Anthracenesulfonyl chloride, 9,10-dihydro-3,4-dihydroxy-9,10-dioxo- 399032-57-6P, 2-Propenamide, N-[3-[[[9-anthracenylmethyl]amino]propyl]-2-methyl- 399032-60-1P, Ethanol, 2-[2-[[[10-(chloromethyl)-9-anthracenyl]methyl]amino]ethoxy]-, hydrochloride 399032-63-4P, 2-Propenamide, N,N'-[9,10-anthracenediylbis(methyleneimino-3,1-propanediyl)]bis[2-methyl- 399032-66-7P, Ethanol, 2,2'-[9,10-anthracenediylbis(methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediylloxy)]bis- 399032-67-8P 399032-72-5P, 2-Propenamide, N,N'-[1,4-phenylenebis(methyleneimino-3,1-propanediyl)]bis[2-methyl- 399032-73-6P, 2-Propenamide, N,N'-[1,4-phenylenebis(methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl)]bis[2-methyl- 408306-43-4P, 2-Propenamide, N-[3-[[[10-[[[2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- 440665-99-6P, 1H-Benz[de]isoquinoline-1,3(2H)-dione, 6-bromo-2-(2,2-diethoxyethyl)- 440666-00-2P, 1H-Benz[de]isoquinoline-1,3(2H)-dione, 6-(butylamino)-2-(2,2-diethoxyethyl)- 440666-01-3P, 1H-Benz[de]isoquinoline-2(3H)-acetaldehyde, 6-(butylamino)-1,3-dioxo- 440666-02-4P, 1,6-Hexanediamine, N-[[4-(dimethylamino)phenyl]methyl]- 440666-03-5P, 1H-Benz[de]isoquinoline-1,3(2H)-dione, 6-(butylamino)-2-[2-[[[6-[[[4-(dimethylamino)phenyl]methyl]amino]hexyl]amino]ethyl]- 440666-05-7P, Carbamic acid, [2-(6-bromo-1,3-dioxo-1H-benz[de]isoquinolin-2(3H)-yl)ethyl]-, 1,1-dimethylethyl ester 440666-18-2P, .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis-, bis(1,1-dimethylethyl) ester 441011-75-2P, 2-Propenamide, N-[3-[[[9-anthracenylmethyl] [[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]amino]propyl]-2-methyl- 443290-70-8P, Carbamic acid, [9,10-anthracenediylbis(methyleneimino-5,1-pentenediyl)]bis-, bis(1,1-dimethylethyl) ester 443290-71-9P, Carbamic acid, [9,10-anthracenediylbis(methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-5,1-pentenediyl)]bis-, bis(1,1-dimethylethyl) ester 443290-74-2P, Carbamic acid, [2-[6-[[[2-(methylamino)ethyl]amino]-1,3-dioxo-1H-benz[de]isoquinolin-2(3H)-yl]ethyl]-, 1,1-dimethylethyl ester 443290-75-3P, Boronic acid, [2-[[[2-[[[2-(2-aminoethyl)-2,3-dihydro-1,3-dioxo-1H-benz[de]isoquinolin-6-yl]amino]ethyl]methylamino]methyl]phenyl]-
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 399032-68-9P 440665-90-7P, Boronic acid, [2-[[[6-[[[2-boronophenyl]methyl] [2-[6-(butylamino)-1,3-dioxo-1H-benz[de]isoquinolin-2(3H)-yl]ethyl]amino]hexyl] [[4-(dimethylamino)phenyl]methyl]amino]methyl]phenyl]- 440665-98-5P, 1H-Benz[de]isoquinoline-1,3(2H)-dione, 6-(butylamino)-2-[2-[[[6-[[[4-(dimethylamino)phenyl]methyl] [[2-(5,5-

dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl]amino]hexyl][[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl]amino]ethyl]-
440666-19-3P, .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl]-, bis(1,1-dimethylethyl) ester **441011-74-1DP**,
 1-Propanaminium, N,N,N-trimethyl-3-[(2-methyl-1-oxo-2-propenyl)amino]-, chloride, polymer with anthracene, derivs. **441011-77-4P**, Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis-

RL: SPN (Synthetic preparation); PREP (Preparation)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

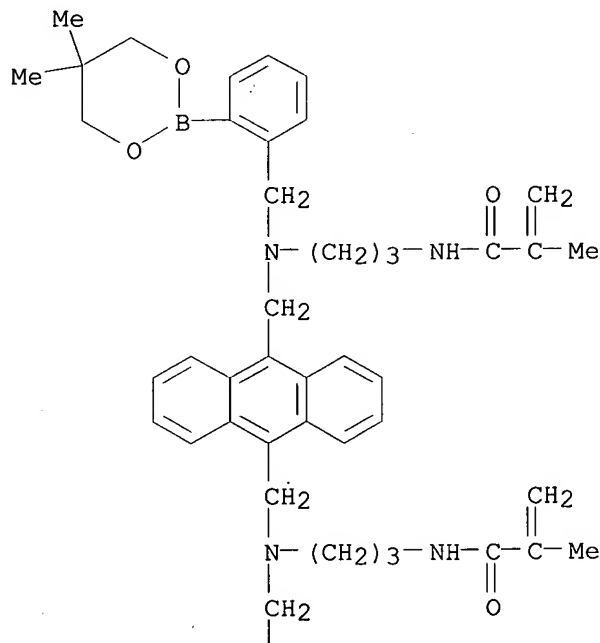
IT **399032-64-5P**, 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl]imino]-3,1-propanediyl]]bis[2-methyl-
 RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

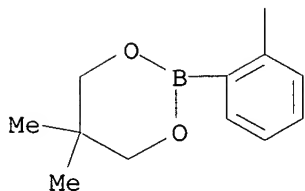
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CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl)methyl]imino]-3,1-propanediyl]]bis[2-methyl-
 (9CI) (CA INDEX NAME)

PAGE 1-A

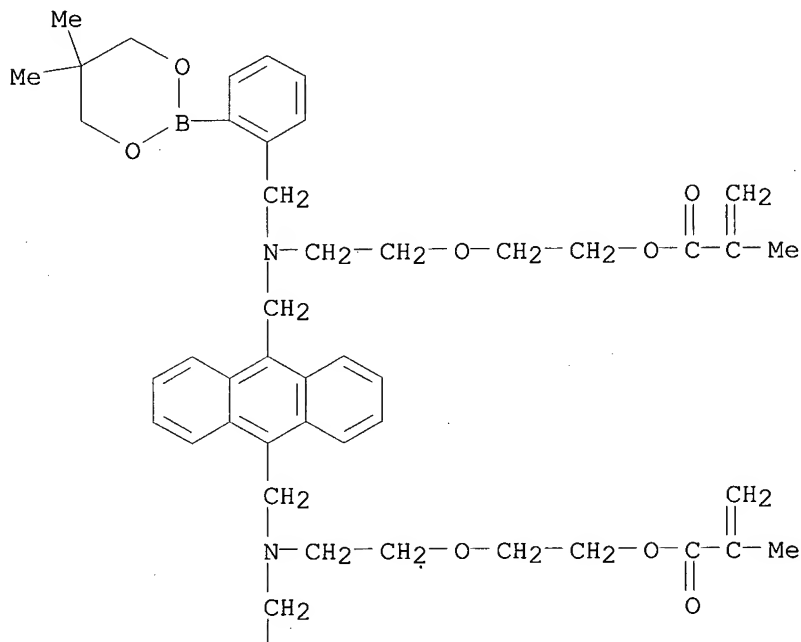


PAGE 2-A

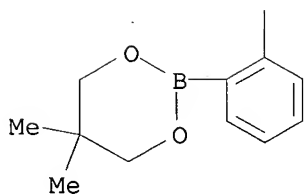


RN 399032-69-0 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

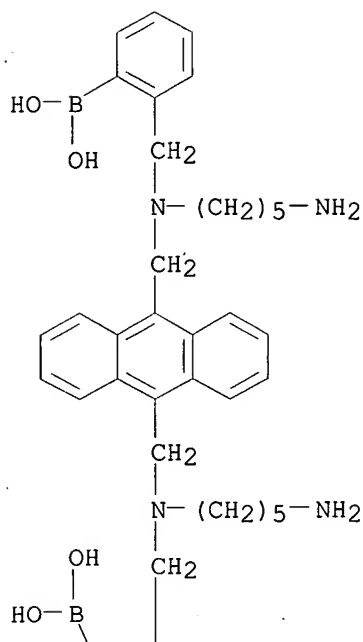


RN 443290-73-1 HCAPLUS
 CN Boronic acid, [9,10-anthracenediylbis[methylene[(5-aminopentyl)imino]methylene-2,1-phenylene]]bis-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

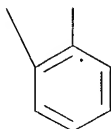
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PAGE 1-A

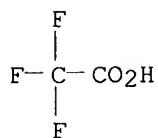


PAGE 2-A



CM 2

CRN 76-05-1
CMF C2 H F3 O2



IT 399032-66-7P, Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- 399032-67-8P 443290-71-9P, Carbamic acid, [9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-5,1-pentanediy]]bis-, bis(1,1-dimethylethyl) ester

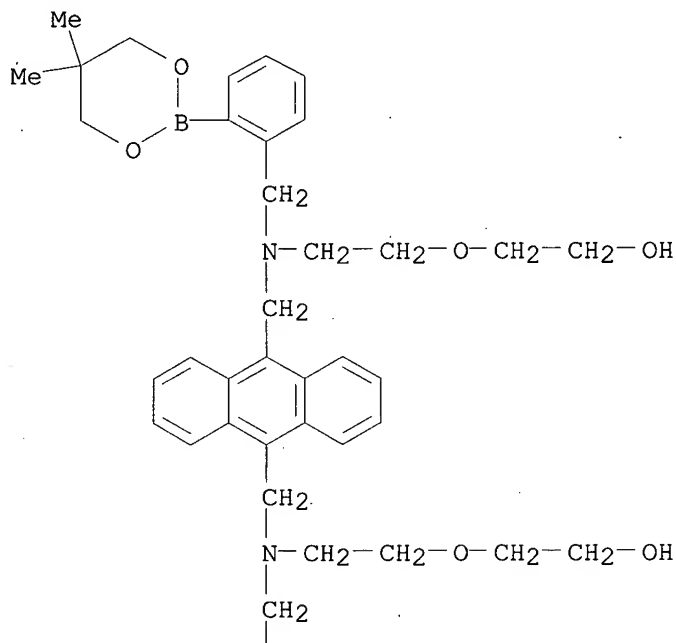
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

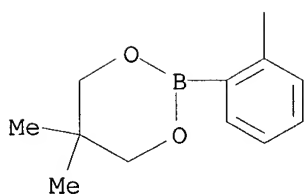
RN 399032-66-7 HCAPLUS

Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-
 dioxaborinan-2-yl)phenyl)methyl]imino]-2,1-ethanediyloxy]]bis- (9CI) (CA
 INDEX NAME)

PAGE 1-A



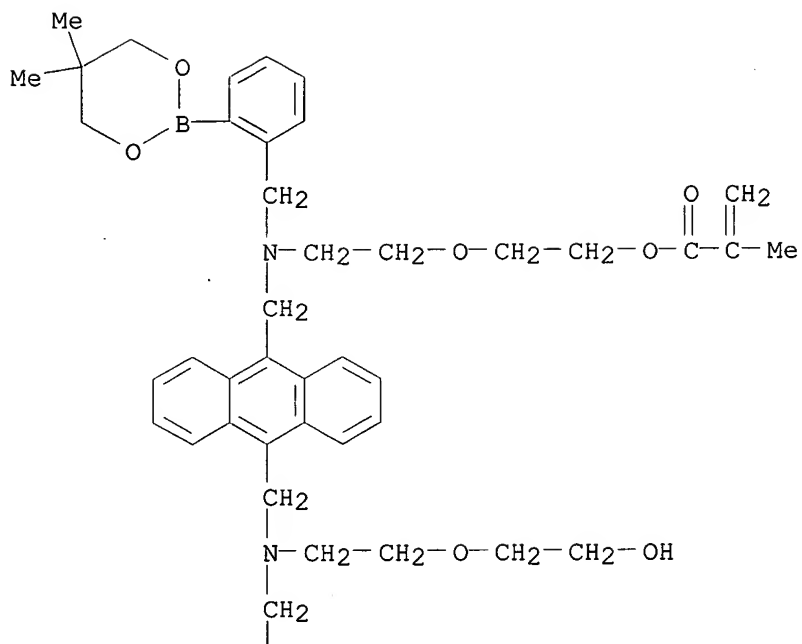
PAGE 2-A



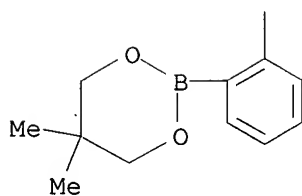
RN 399032-67-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

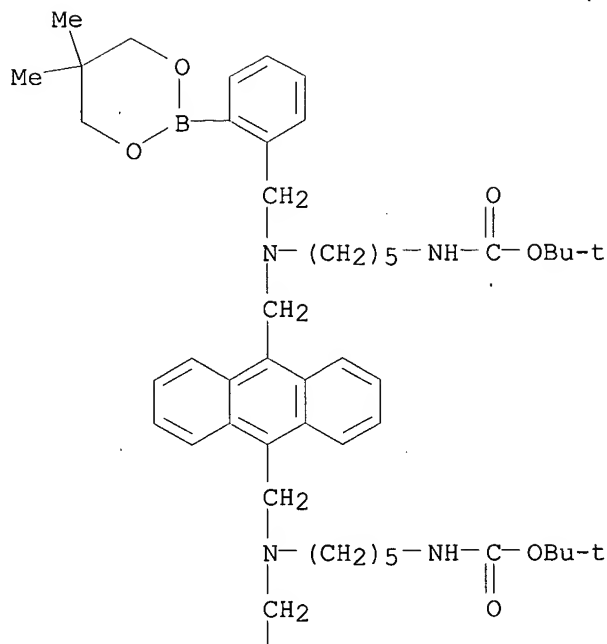


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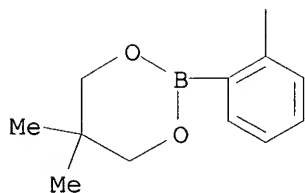


RN 443290-71-9 HCAPLUS
 CN Carbamic acid, [9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-5,1-pentanedyl]]bis-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A

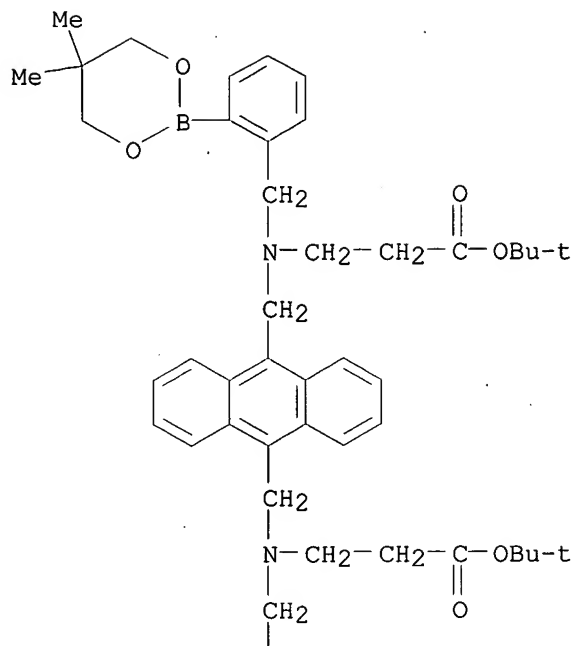


PAGE 2-A

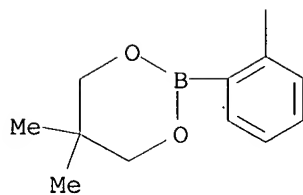


- IT **440666-19-3P**, .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester **441011-77-4P**, Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis-
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- RN 440666-19-3 HCAPLUS
- CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A

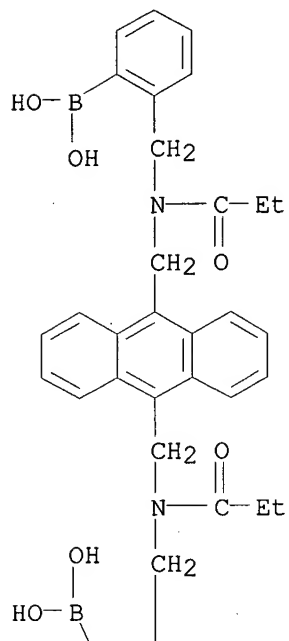


PAGE 2-A

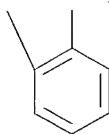


RN 441011-77-4 HCAPLUS
 CN Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L52 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:555763 HCAPLUS
 DN 137:106086
 TI Detection of glucose in solutions also containing an alpha-hydroxy acid or a beta-diketone
 IN **Daniloff, George Y.; Kalivrentenos, Aristotle G.; Nikolaitchik, Alexandre V.**
 PA **Sensors for Medicine and Science, Inc., USA**
 SO PCT Int. Appl., 83 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM G01N033-66
 CC 9-16 (Biochemical Methods)
 Section cross-reference(s): 63
 FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002057788	A2	20020725	WO 2002-US199	20020104
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				

PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2002090734 A1 20020711 US 2001-754217 20010105
 US 2002127626 A1 20020912 US 2001-29184 20011228 <--
 PRAI US 2001-754217 A 20010105
 US 2001-269887P P 20010221
 US 2001-329746P P 20011018
 US 2001-29184 A 20011228
 OS MARPAT 137:106086
 AB The invention concerns compns. and methods for detg. the presence or
 concn. of glucose in a sample which may also contain an alpha-hydroxy acid
 or a beta-diketone. The method uses a compd. having at least two
 recognition elements for glucose, oriented such that the interaction
 between the compd. and glucose is more stable than the interaction between
 the compd. and the alpha-hydroxy acid or beta-diketone, such that the
 presence of the alpha-hydroxy acid or the beta-diketone does not
 substantially interfere with said detn.
 ST glucose soln alpha hydroxy acid beta diketone
 IT Atoms
 Blood analysis
 Blood plasma
 Blood serum
 Body fluid
 Body fluid
 Buffers
 Cerebrospinal fluid
 Concentration (condition)
 Eye
 Fluorescence quenching
 Fluorescent substances
 Fluorometry
 Functional groups
 Hydrolysis
 Immobilization, molecular
 Linking agents
 Lymph
 Medical goods
 Saliva
 Solutions
 Sweat
 Tear (ocular fluid)
 Urine analysis
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)
 IT Carboxylic acids, uses
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)
 IT Acids, analysis
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)
 IT Ketones, analysis
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)
 IT Polymers, analysis
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a
 beta-diketone)

- IT Silica gel, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 50-99-7, D-Glucose, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 541-50-4, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 79-09-4D, Propionic acid, derivs. 81-83-4D, Naphthalimide, derivs.
110-82-7D, Hexamethylene, derivs. 120-12-7D, Anthracene, derivs.
124-40-3D, Dimethylamine, derivs. 1333-74-0D, Hydrogen, derivs.
7440-44-0D, Carbon, derivs. 7704-34-9D, Sulfur, derivs. 7723-14-0D, Phosphorus, derivs. 7727-37-9D, Nitrogen, derivs. 7782-44-7D, Oxygen, derivs. 11120-48-2D, Telluric acid, derivs. 12134-79-1D, Germanic acid, derivs. 13464-58-9D, Arsenious acid, derivs. 13780-71-7D, Boronic acid, derivs. 15502-74-6D, Arsenite, derivs. 29256-93-7D, derivs. 53112-54-2D, Tellurate ion, derivs.
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT **399032-64-5P**
RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT **399032-62-3P 399032-69-0P 443290-73-1P**
443290-76-4P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 50-21-5, analysis
RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 79-41-4, Methacrylic acid, reactions 81-86-7 100-10-7,
4-Dimethylaminobenzaldehyde 110-18-9, N,N,N',N',-
Tetramethylethylenediamine 110-26-9, n,n'-Methylenebisacrylamide
124-09-4, 1,6-Diaminohexane, reactions 128-37-0, reactions 130-22-3
623-27-8, 1,4-Benzenedicarboxaldehyde 645-36-3, Aminoacetaldehyde
diethyl acetal 929-06-6 2680-03-7, n,n-Dimethylacrylamide 5039-78-1
6192-52-5, p-Toluenesulfonic acid monohydrate 7087-68-5, Diea
10387-13-0, 9,10-Bis(chloromethyl)anthracene 24463-19-2,
9-Chloromethylanthracene 31922-97-1 51410-72-1, MAPTAC 57951-36-7
58620-93-2 72607-53-5, N-(3-Aminopropyl)methacrylamide hydrochloride
79238-88-3 399032-71-4 441011-76-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)
- IT 108366-02-5P 259660-47-4P 399032-57-6P 399032-60-1P 399032-63-4P
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408306-43-4P 440665-99-6P 440666-00-2P 440666-01-3P 440666-02-4P
440666-03-5P 440666-05-7P 440666-18-2P 441011-75-2P 443290-70-8P
443290-71-9P 443290-74-2P 443290-75-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

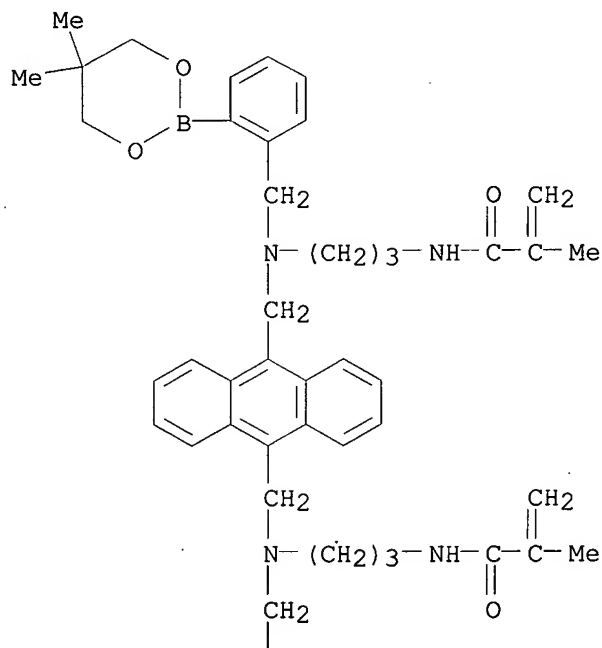
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 399032-68-9P 440665-90-7P 440665-98-5P **440666-19-3P**
 441011-74-1DP, derivs. **441011-77-4P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

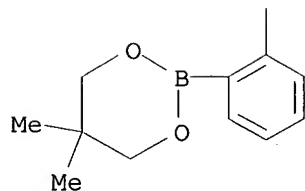
IT **399032-64-5P**
 RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

RN 399032-64-5 HCAPLUS
 CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



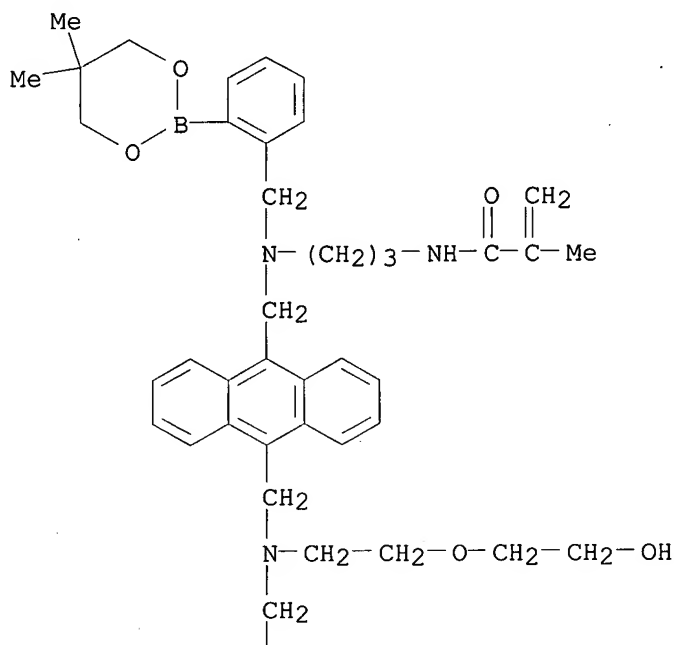
IT **399032-62-3P 399032-69-0P 443290-73-1P**
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (detection of glucose in solns. also contg. alpha-hydroxy acid or a

beta-diketone)

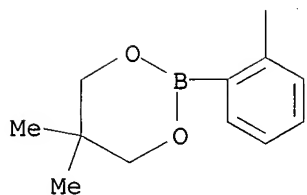
RN 399032-62-3 HCAPLUS

CN 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



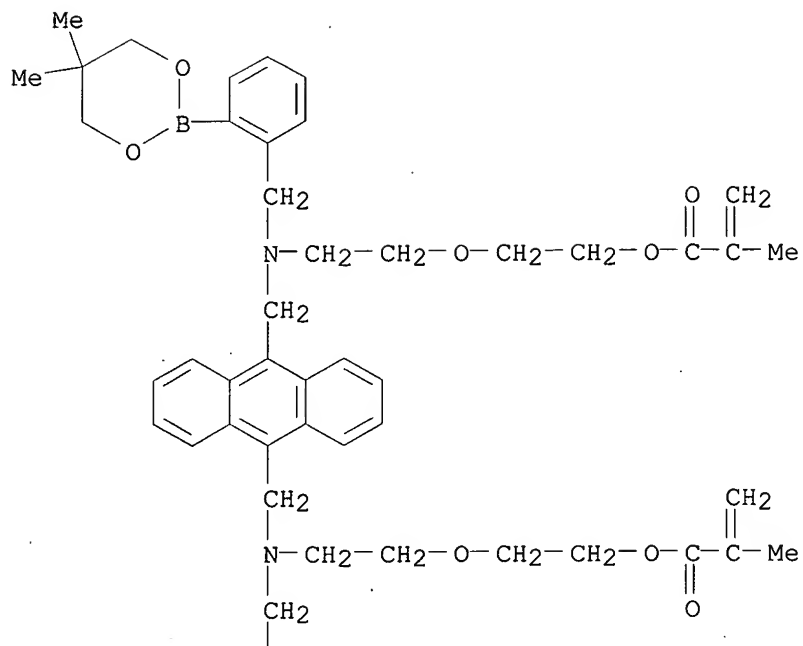
PAGE 2-A



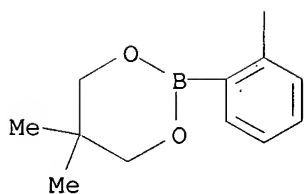
RN 399032-69-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediylloxy-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

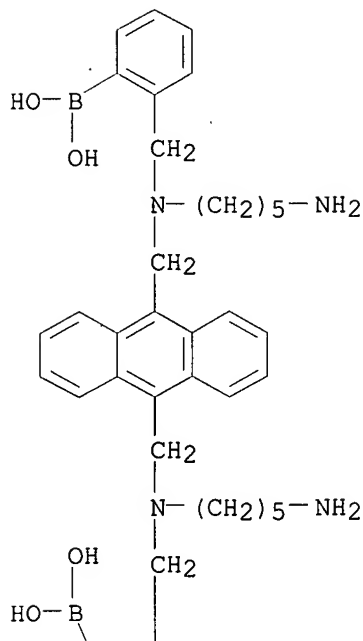


RN 443290-73-1 HCAPLUS
 CN Boronic acid, [9,10-anthracenediylbis[methylene[(5-aminopentyl)imino]methylene-2,1-phenylene]]bis-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

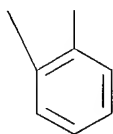
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CRN 443290-72-0
 CMF C40 H52 B2 N4 O4

PAGE 1-A



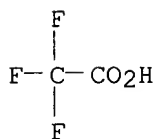
PAGE 2-A



CM 2

CRN 76-05-1

CMF C2 H F3 O2



IT 399032-66-7P 399032-67-8P 443290-71-9P

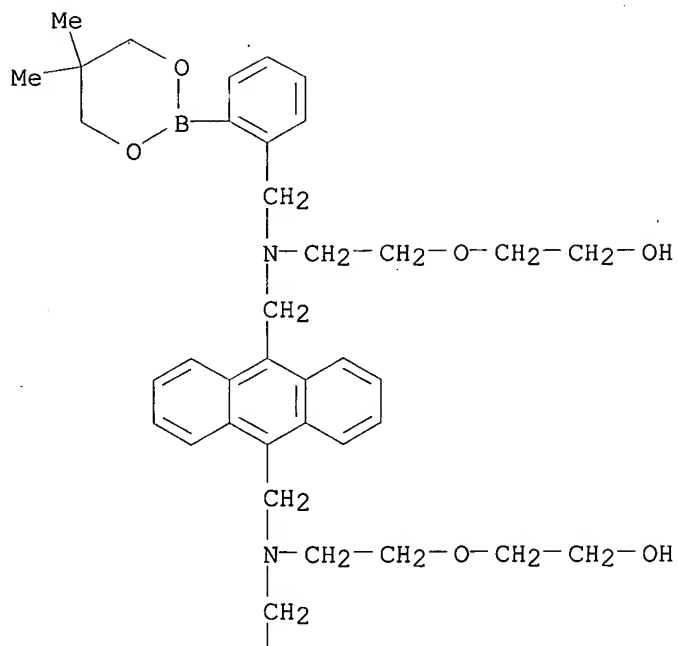
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

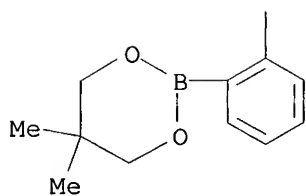
RN 399032-66-7 HCAPLUS

CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

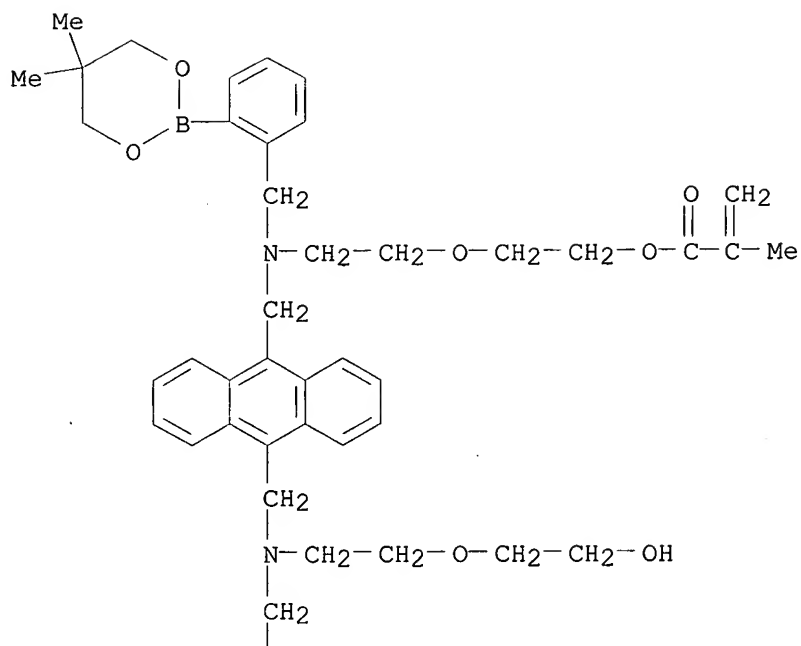


PAGE 2-A

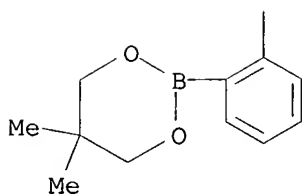


RN 399032-67-8 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

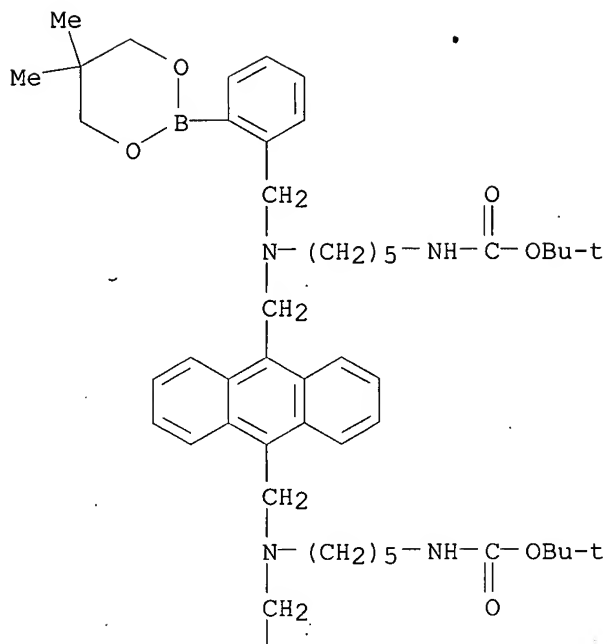


PAGE 2-A

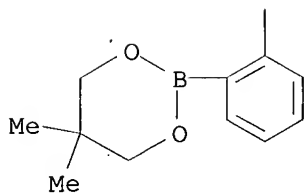


RN 443290-71-9 HCAPLUS
 CN Carbamic acid, [9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-5,1-pentanediy]]bis-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME).

PAGE 1-A



PAGE 2-A



IT 440666-19-3P 441011-77-4P

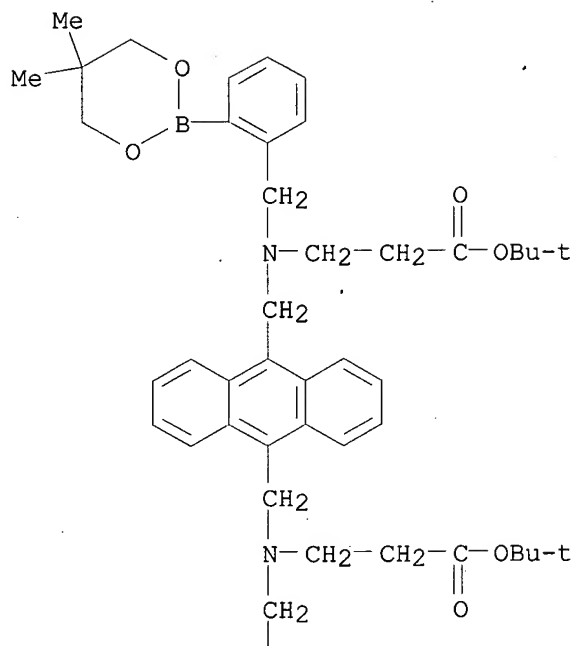
RL: SPN (Synthetic preparation); PREP (Preparation)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

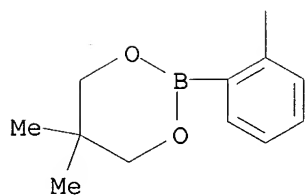
RN 440666-19-3 HCAPLUS

CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A

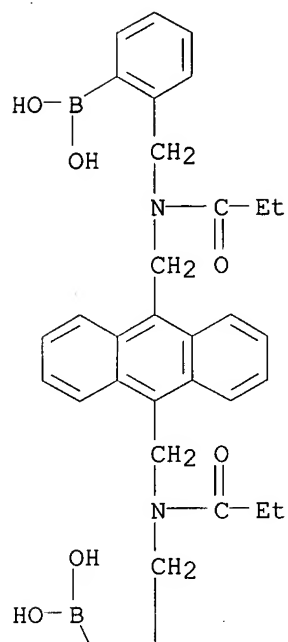


PAGE 2-A

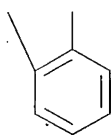


RN 441011-77-4 HCAPLUS
 CN Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L52 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:522549 HCAPLUS
 DN 137:90594
 TI Detection of glucose in solutions also containing an alpha-hydroxy acid or
 a beta-diketone
 IN **Daniloff, George Y.; Kalivretenos, Aristotle G.;**
Nikolaitchik, Alexandre V.
 PA USA
 SO U.S. Pat. Appl. Publ., 21 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C12Q001-54
 ICS G01N033-00
 NCL 436095000
 CC 9-16 (Biochemical Methods)
 Section cross-reference(s): 63
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002090734	A1	20020711	US 2001-754217	20010105
	US 2002127626	A1	20020912	US 2001-29184	20011228 <--
	WO 2002057788	A2	20020725	WO 2002-US199	20020104

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
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US 2003082663 A1 20030501 US 2002-187903 20020703

PRAI US 2001-754217 A2 20010105
 US 2001-269887P P 20010221
 US 2001-329746P P 20011018
 US 2001-29184 A 20011228
 US 2002-363885P P 20020314

OS MARPAT 137:90594

AB Compns. and methods for detg. the presence or concn. of glucose in a sample which may also contain an alpha-hydroxy acid or a beta-diketone. The method uses a compd. having at least two recognition elements for glucose, oriented such that the interaction between the compd. and glucose is more stable than the interaction between the compd. and the alpha-hydroxy acid or beta-diketone, such that the presence of the alpha-hydroxy acid or the beta-diketone does not substantially interfere with said detn.

ST detection glucose soln alpha hydroxy acid beta diketone

IT Ketones, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (1,3-diketones; detection of glucose in solns. also contg.
 alpha-hydroxy acid or a beta-diketone)

IT Functional groups

(Boronic acid; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Atoms

(Heteroatoms; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Medical goods

(Implantable; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Buffers

(Physiol.; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Functional groups

(Vicinal diol; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Carboxylic acids, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (aliph., compds. contg.; detection of glucose in solns. also contg.
 alpha-hydroxy acid or a beta-diketone)

IT Atoms

Blood analysis

Blood plasma

Blood serum

Body fluid

Cerebrospinal fluid

Composition

Concentration (condition)

Fluorescence

Fluorescence quenching

Fluorescent substances

Fluorometry

Hydrolysis

Immobilization, molecular

Indicators

Linking agents

Lymph

Molecules

Reaction

Saliva

Samples

Solids

Solutions

Stability

Sweat

Tear (ocular fluid)

Urine analysis

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Polymers, analysis

Silica gel, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Body fluid

(interstitial; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Eye

(intraocular fluid; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT Acids, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(oxo, .alpha.-; detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 50-99-7, D-Glucose, analysis

RL: ANT (Analyte); ANST (Analytical study)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 541-50-4, analysis

RL: ANT (Analyte); ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 79-09-4D, Propionic acid, compds. contg. 81-83-4D, Naphthalimide, compds. contg. 110-82-7D, Hexamethylene, compds. contg. 120-12-7D, Anthracene, compds. contg. 124-40-3D, Dimethylamine, compds. contg. 1333-74-0D, Hydrogen, compds. contg. 7440-44-0D, Carbon, compds. contg. 7704-34-9D, Sulfur, compds. contg. 7723-14-0D, Phosphorus, compds. contg. 7727-37-9D, Nitrogen, compds. contg. 7782-44-7D, Oxygen, compds. contg. 11120-48-2D, Telluric acid, compds. contg. 12134-79-1D, Germanic acid, compds. contg. 13464-58-9D, Arsenious acid, compds. contg. 13780-71-7D, Boronic acid, compds. contg. 15502-74-6D, Arsenite, compds. contg. 29256-93-7D, compds. contg. 53112-54-2D, Tellurate ion, compds. contg.

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 50-21-5, analysis

RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 79-41-4, Methacrylic acid, reactions 81-86-7 100-10-7,
4-Dimethylaminobenzaldehyde 110-18-9, N,N,N',N',-
Tetramethylethylenediamine 110-26-9, n,n'-Methylenebisacrylamide
124-09-4, 1,6-Diaminohexane, reactions 128-37-0, reactions 130-22-3
623-27-8, 1,4-Benzenedicarboxaldehyde 645-36-3, Aminoacetaldehyde
diethyl acetal 929-06-6, 2-(2-Aminoethoxy)ethanol 2680-03-7,

n,n-Dimethylacrylamide 5039-78-1, TMAMA 6192-52-5, p-Toluenesulfonic acid monohydrate 7087-68-5, Diea 10387-13-0, 9,10-Bis(chloromethyl)anthracene 24463-19-2, 9-Chloromethylantracene 31922-97-1 51410-72-1, MAPTAC 57951-36-7 58620-93-2 72607-53-5, N-(3-Aminopropyl)methacrylamide hydrochloride 79238-88-3
399032-64-5 399032-71-4 441011-76-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 108366-02-5P 259660-47-4P 399032-57-6P **399032-66-7P**
399032-67-8P 399032-72-5P 399032-73-6P 440665-99-6P
 440666-00-2P 440666-01-3P 440666-02-4P 440666-03-5P 440666-18-2P
 441011-75-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT 399032-68-9P 440665-90-7P 440665-98-5P **440666-19-3P**
 441011-74-1DP, derivs. **441011-77-4P**

RL: SPN (Synthetic preparation); PREP (Preparation)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

IT **399032-64-5**

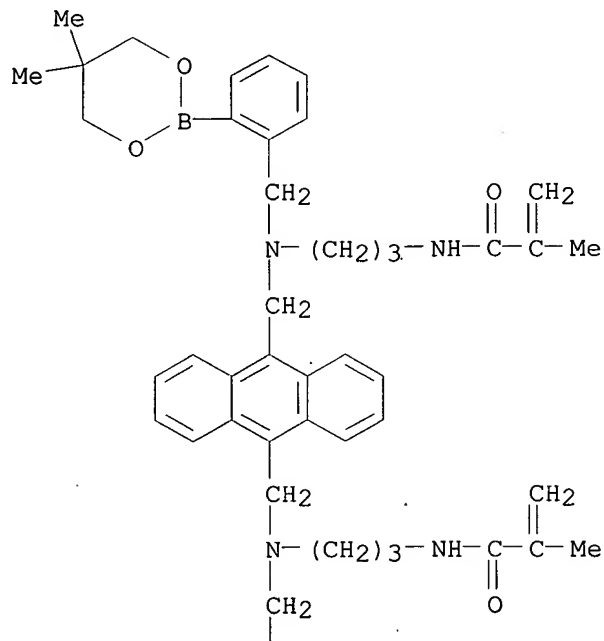
RL: RCT (Reactant); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

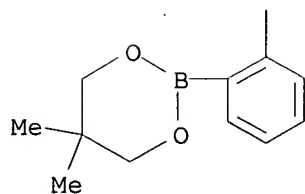
RN 399032-64-5 HCAPLUS

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 399032-66-7P 399032-67-8P

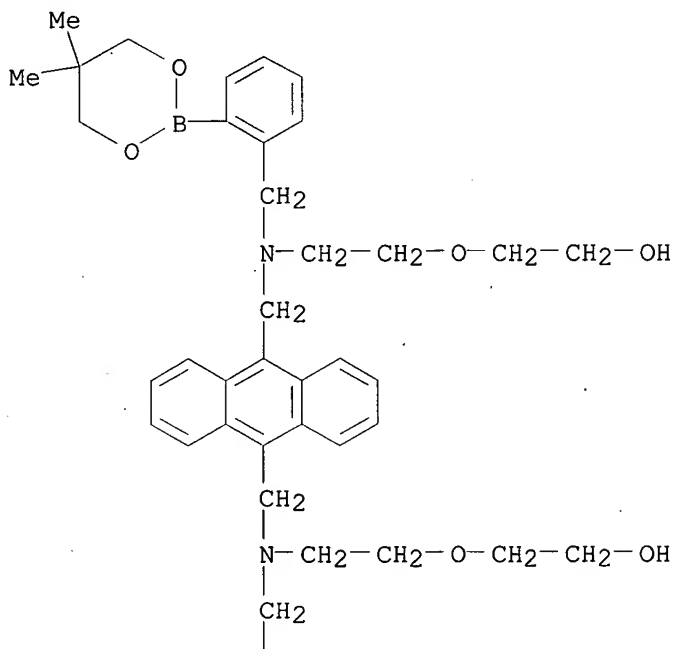
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

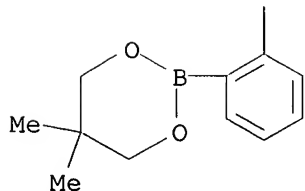
RN 399032-66-7 HCAPLUS

CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



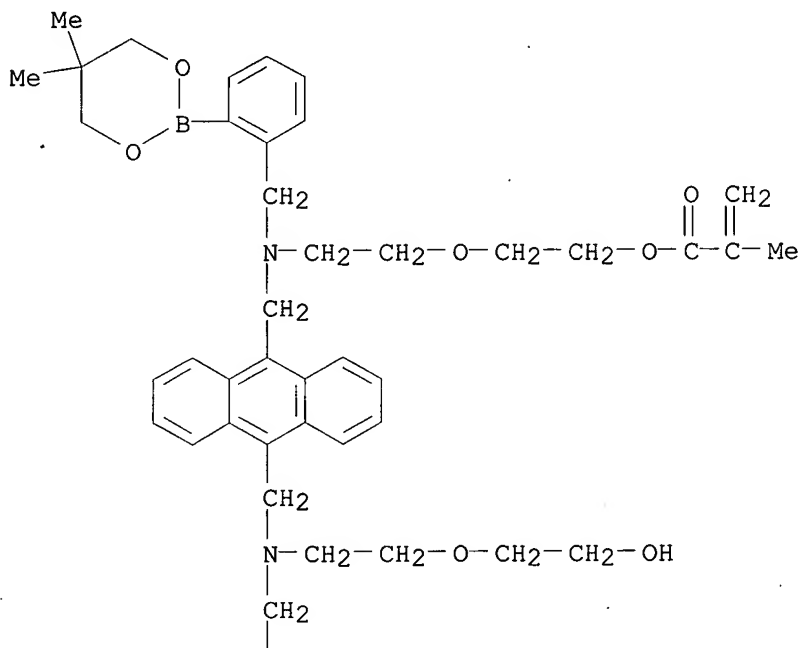
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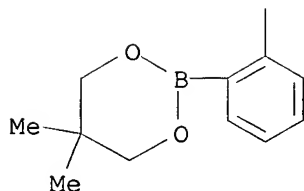
RN 399032-67-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 440666-19-3P 441011-77-4P

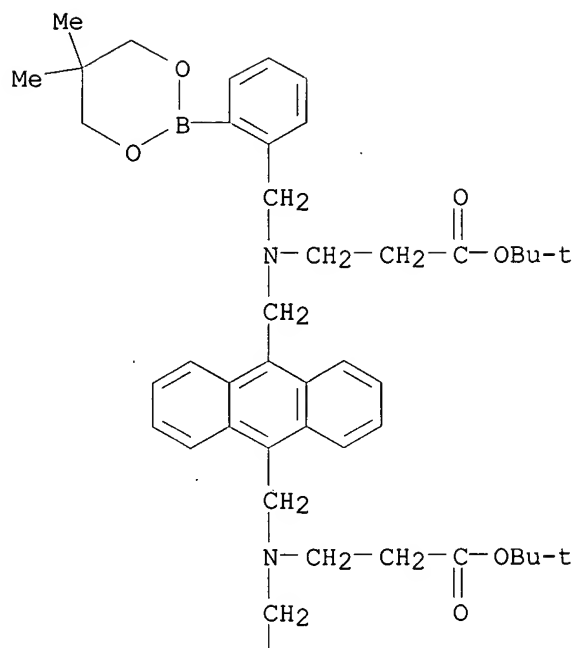
RL: SPN (Synthetic preparation); PREP (Preparation)

(detection of glucose in solns. also contg. alpha-hydroxy acid or a beta-diketone)

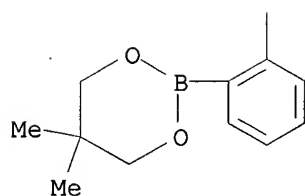
RN 440666-19-3 HCAPLUS

CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A

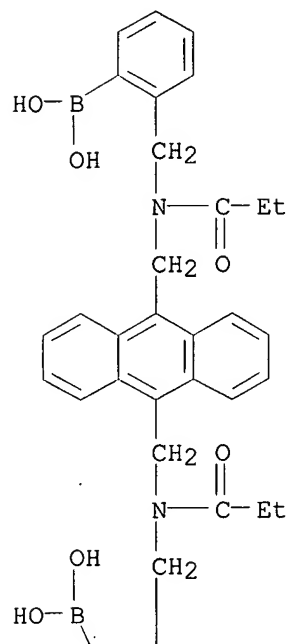


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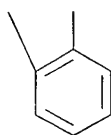


RN 441011-77-4 HCAPLUS
 CN Boronic acid, [9,10-anthracenediylbis[methylene[(1-oxopropyl)imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L52 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:522152 HCAPLUS
 DN 137:75531
 TI Detection of analytes
 IN Daniloff, George Y.; Kalivrentenos, Aristotle G.;
 Nikolaitchik, Alexandre V.; Ullman, Edwin F.
 PA Sensors for Medicine and Science, Inc., USA
 SO PCT Int. Appl., 81 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM G01N033-52
 ICS G01N033-66
 CC 9-5 (Biochemical Methods)
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002054067	A2	20020711	WO 2002-US201	20020104
	WO 2002054067	A3	20030522		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
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 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,

PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
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 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
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US 2002094586 A1 20020718 US 2001-754219 20010105

US 2002119581 A1 20020829 US 2001-28331 20011228

PRAI US 2001-754219 A 20010105

US 2001-28331 A 20011228

AB Disclosed are methods for detecting analytes, such as sugars, indicator systems which may undergo a mol. configurational change upon exposure to the analyte. The configurational change affects a detectable quality, such as fluorescence assocd. with the indicator system, thereby allowing detection of the presence or concn. of the analyte.

ST glucose detection fluorometry indicator

IT Blood analysis

Blood plasma

Blood serum

Buffers

Cerebrospinal fluid

Electron acceptors

Electron donors

Fluorescence quenching

Fluorometry

Lymph

Molecular recognition

Saliva

Sweat

Tear (ocular fluid)

Urine analysis

(detection of analytes)

IT Ligands

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(detection of analytes)

IT Body fluid

(interstitial; detection of analytes)

IT 50-99-7, Glucose, analysis

RL: ANT (Analyte); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)

(detection of analytes)

IT 50-21-5, Lactic acid, analysis 87-69-4, Tartaric acid, analysis

111-42-2, Diethanolamine, analysis 6915-15-7, Malic acid

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(detection of analytes)

IT 259660-47-4P 440665-90-7P 440665-91-8P 440665-92-9P 440665-93-0P

440665-94-1P 440665-95-2P 440665-96-3P 440665-97-4P 440666-18-2P

440666-19-3P 440666-20-6P 440666-21-7P 440666-22-8P

440666-24-0P 440666-26-2P 440666-27-3P

RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)

(detection of analytes)

IT 81-86-7 440665-98-5 440665-99-6 440666-00-2 440666-01-3

440666-02-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(detection of analytes)

IT 440666-03-5P 440666-04-6P 440666-05-7P 440666-06-8P 440666-07-9P

440666-08-0P 440666-09-1P 440666-10-4P 440666-11-5P 440666-13-7P

440666-15-9P 440666-16-0P 440666-17-1P 440666-28-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(detection of analytes)

IT **440666-19-3P 440666-20-6P**

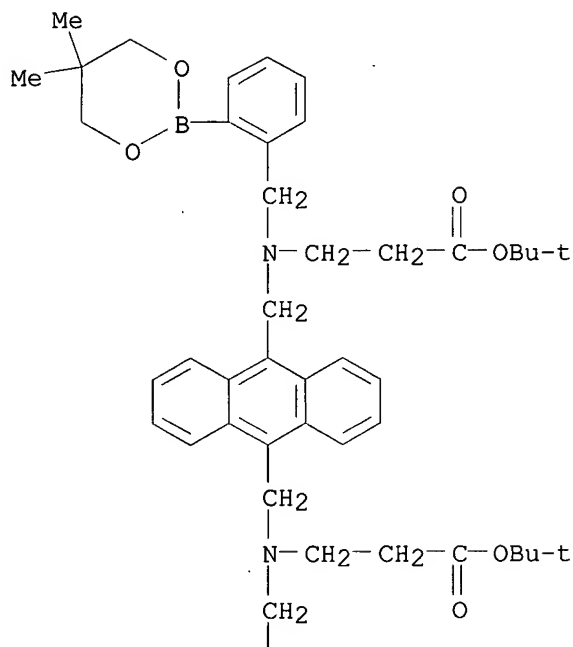
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST

(Analytical study); PREP (Preparation)
(detection of analytes)

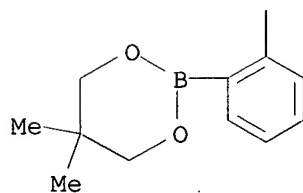
RN 440666-19-3 HCAPLUS

CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



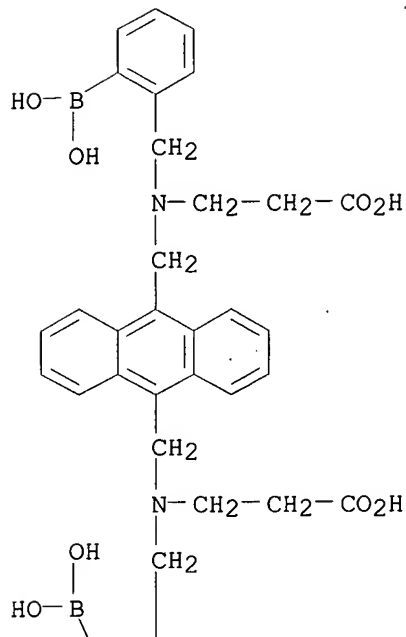
PAGE 2-A



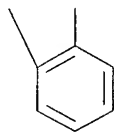
RN 440666-20-6 HCAPLUS

CN .beta.-Alanine, N,N'-[9,10-anthracenediylbis(methylene)]bis[N-[(2-boronophenyl)methyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



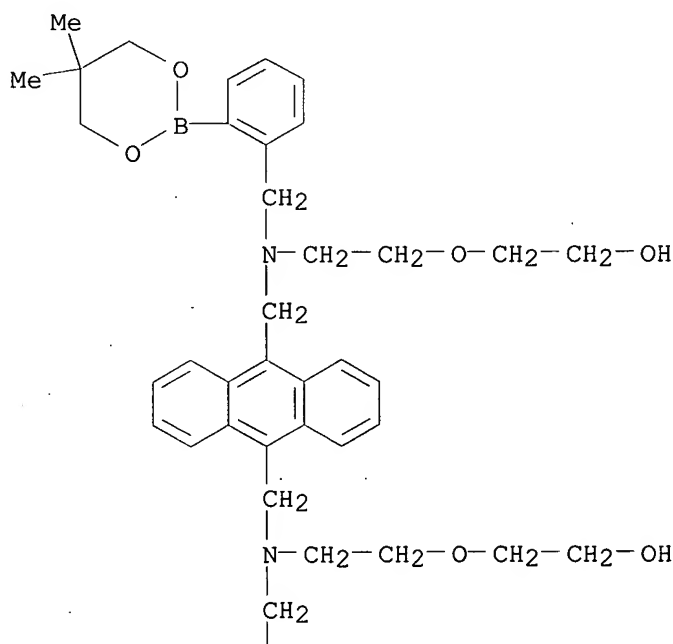
L52 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:256773 HCAPLUS
 DN 136:291357
 TI Detection of analytes in aqueous environments
 IN Colvin, Arthur E.
 PA **Sensors for Medicine and Science, Inc., USA**
 SO U.S. Pat. Appl. Publ., 26 pp., Cont.-in-part of U. S. Ser. No. 632,624.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM G01N033-00
 NCL 436095000
 CC 9-14 (Biochemical Methods)
 Section cross-reference(s): 61
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002039793	A1	20020404	US 2001-920627	20010803
	US 2003003592	A1	20030102	US 2002-193246	20020712
	US 2003008408	A1	20030109	US 2002-193244	20020712
	US 2003013204	A1	20030116	US 2002-193245	20020712
	US 2003013202	A1	20030116	US 2002-193249	20020712
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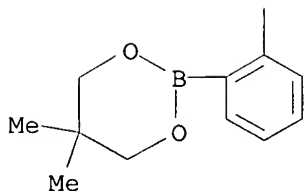
- AB The invention concerns indicator mols. for detecting the presence or concn. of an analyte in a medium, such as a liq., and to methods for achieving such detection. More particularly, the invention relates to copolymer macromols. contg. relatively hydrophobic indicator component monomers, and hydrophilic monomers, such that the macromol. is capable of use in an aq. environment.
- ST analyte fluorescent indicator monomer hydrophilicity glucose acid hydrogel
- IT Polycyclic compounds
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(arom. hydrocarbons; detection of analytes in aq. environments)
- IT Polymerization
(co-; detection of analytes in aq. environments)
- IT Excimer
Fluorescence
Fluorescent indicators
Hydrogels
Hydrophilicity
Indicators
Optical properties
Temperature
pH
(detection of analytes in aq. environments)
- IT Hormones, animal, analysis
Minerals, analysis
Toxins
RL: ANT (Analyte); ANST (Analytical study)
(detection of analytes in aq. environments)
- IT Oligosaccharides, analysis
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
(detection of analytes in aq. environments)
- IT Monomers
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(detection of analytes in aq. environments)
- IT Rare earth complexes
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(detection of analytes in aq. environments)
- IT Aromatic hydrocarbons, uses
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(polycyclic; detection of analytes in aq. environments)
- IT Glycols, analysis
RL: ANT (Analyte); ANST (Analytical study)
(vicinal; detection of analytes in aq. environments)
- IT Acids, analysis
RL: ANT (Analyte); ANST (Analytical study)
(.alpha.-hydroxy; detection of analytes in aq. environments)
- IT Acids, analysis
RL: ANT (Analyte); ANST (Analytical study)
(.beta.-keto; detection of analytes in aq. environments)
- IT 124-38-9, Carbon dioxide, analysis 1333-74-0, Hydrogen, analysis
3812-32-6, Carbonate, analysis 7440-09-7, Potassium, analysis
7440-66-6, Zinc, analysis 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detection of analytes in aq. environments)
- IT 50-99-7, D-Glucose, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)
(detection of analytes in aq. environments)
- IT 408306-36-5D, derivs.
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical

study); USES (Uses)
 (detection of analytes in aq. environments)
 IT 399032-58-7P 399032-66-7P 399032-67-8P
 399032-69-0P
 RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (detection of analytes in aq. environments)
 IT 399032-59-8P 399032-62-3P 399032-64-5P 399032-68-9P
 399032-71-4P 399032-73-6P 408306-38-7P 408306-39-8P
 408306-40-1P 408306-41-2P 408306-42-3P
 408306-50-3P
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (detection of analytes in aq. environments)
 IT 50-21-5, analysis
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (detection of analytes in aq. environments)
 IT 108366-02-5P 399032-57-6P 399032-60-1P 399032-63-4P 408306-43-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (detection of analytes in aq. environments)
 IT 2680-03-7, N,N-Dimethylacrylamide
 RL: NUU (Other use, unclassified); USES (Uses)
 (hydrogel; detection of analytes in aq. environments)
 IT 399032-66-7P 399032-67-8P 399032-69-0P
 RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (detection of analytes in aq. environments)
 RN 399032-66-7 HCAPLUS
 CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

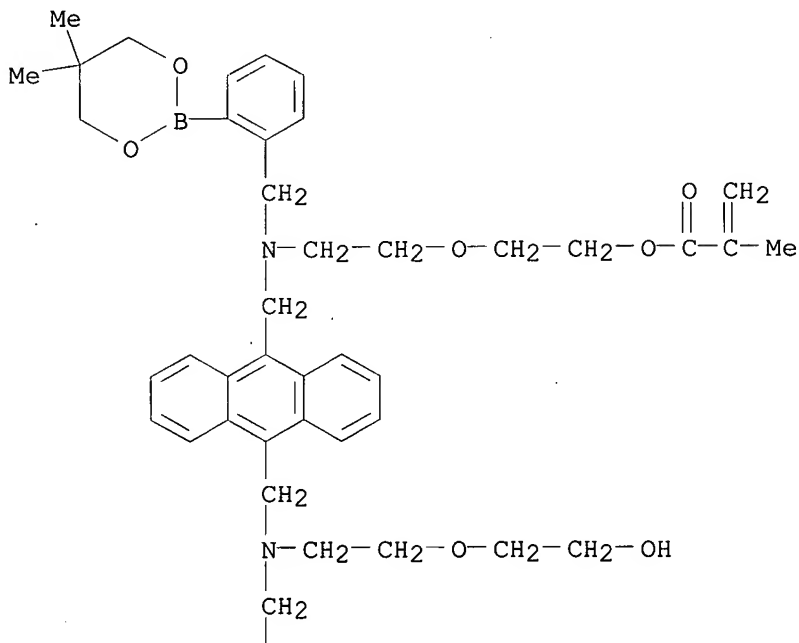


PAGE 2-A

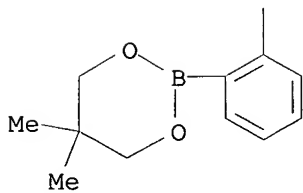


RN 399032-67-8 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



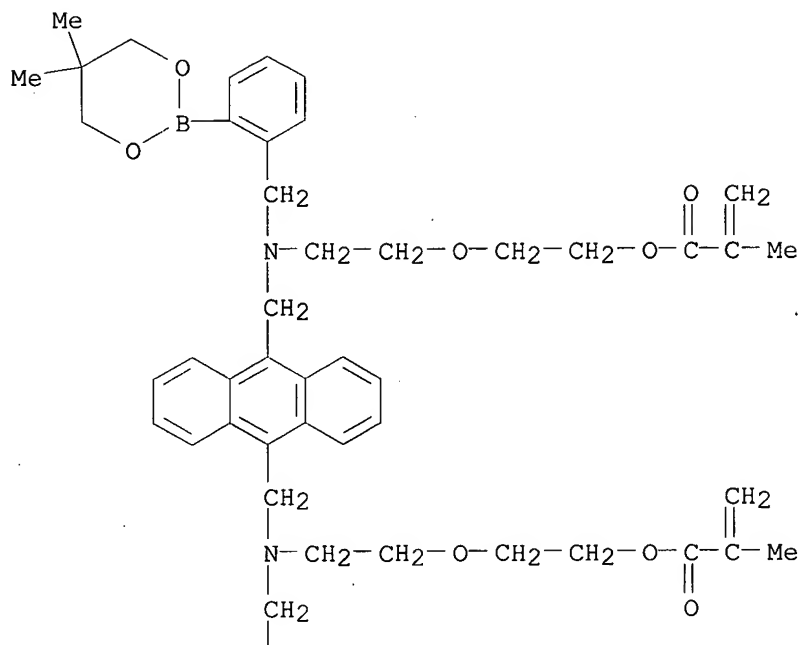
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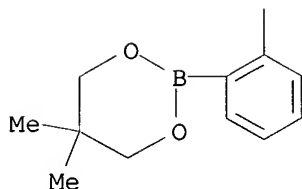
RN 399032-69-0 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyoxy-

2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



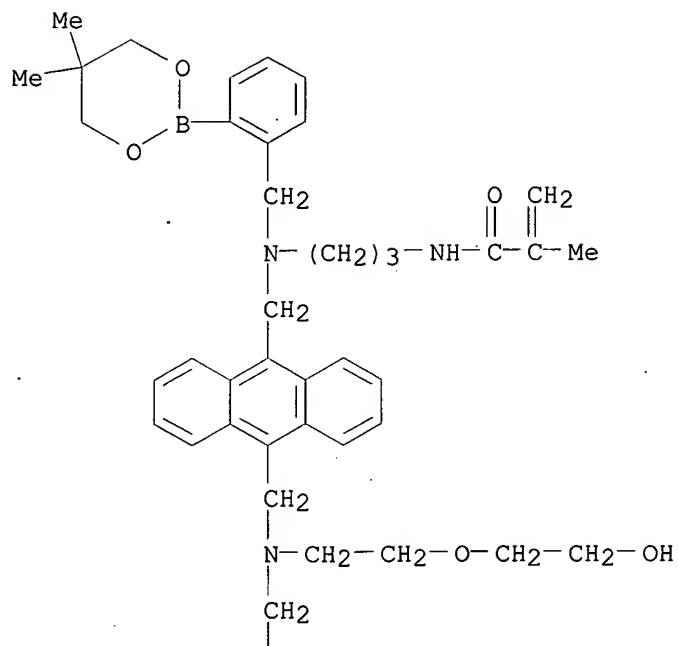
IT 399032-62-3P 399032-64-5P 408306-38-7P
 408306-39-8P 408306-40-1P 408306-41-2P
 408306-42-3P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (detection of analytes in aq. environments)

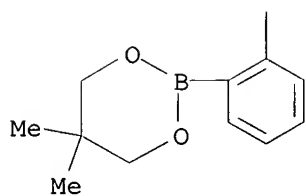
RN 399032-62-3 HCAPLUS

CN 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A

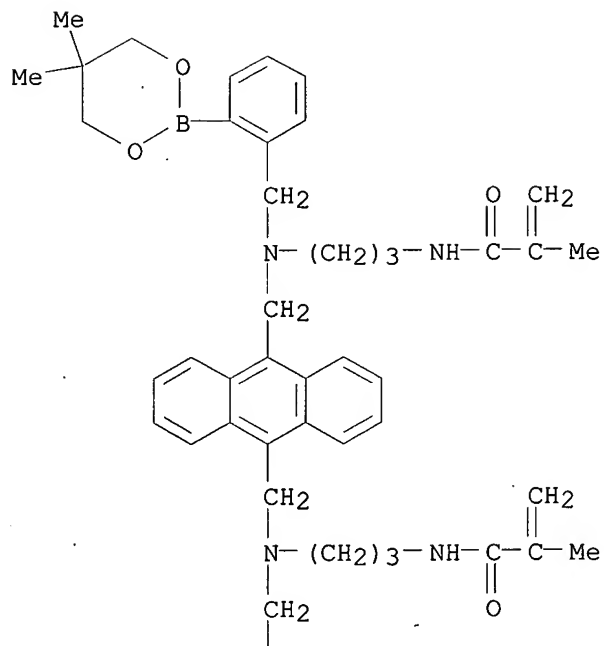


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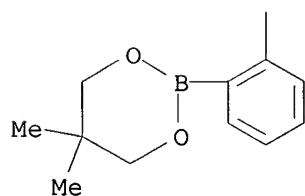


RN 399032-64-5 HCAPLUS
 CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl-
 (9CI) (CA INDEX NAME)

PAGE 1-A

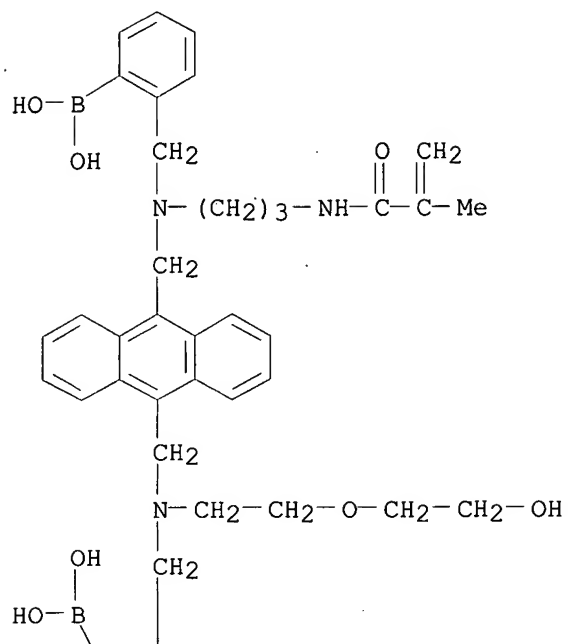


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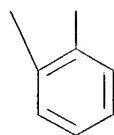


RN 408306-38-7 HCAPLUS
 CN Boronic acid, [2-[[[10-[[[(2-boronophenyl)methyl][2-(2-hydroxyethoxy)ethyl]amino)methyl]-9-anthracenyl]methyl][3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]amino)methyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

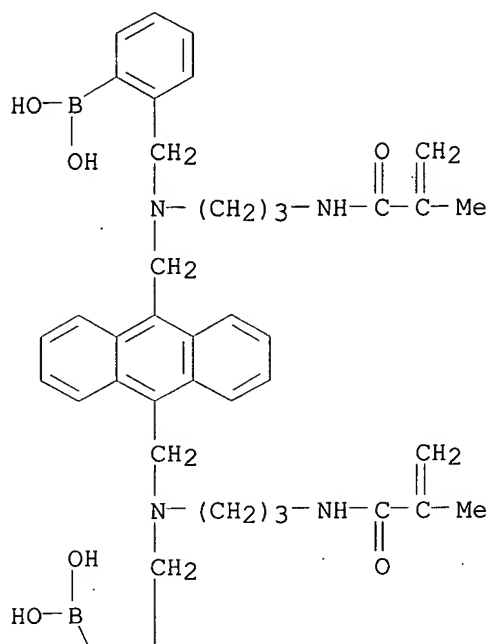


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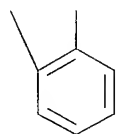


RN 408306-39-8 HCAPLUS
 CN Boronic acid, [9,10-anthracenediylbis[methylene[[3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

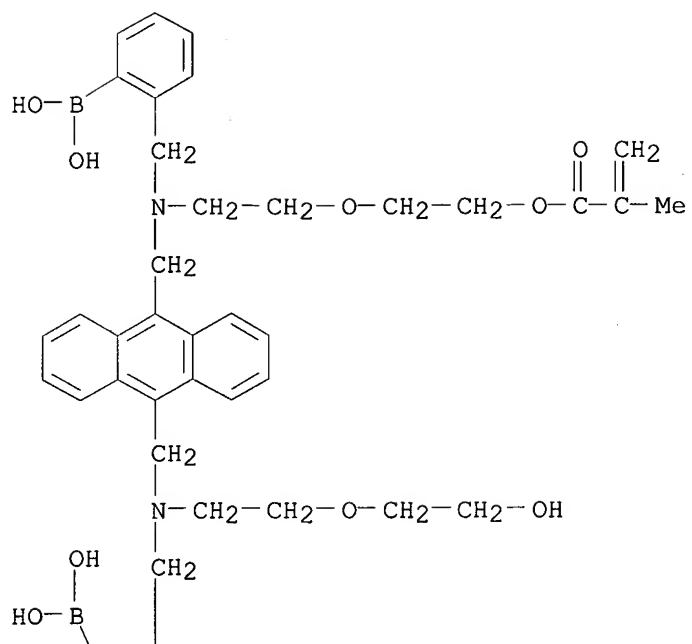


PAGE 2-A

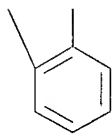


RN 408306-40-1 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-boronophenyl)methyl][[10-[[[(2-boronophenyl)methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

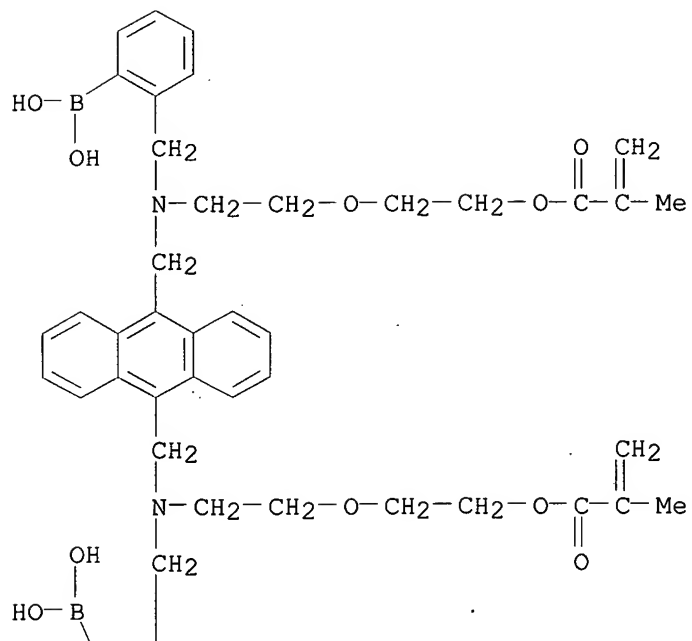


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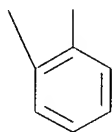


RN 408306-41-2 HCAPLUS
 CN Boronic acid, [9,10-anthracenediylbis[methylene[[2-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethyl]imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

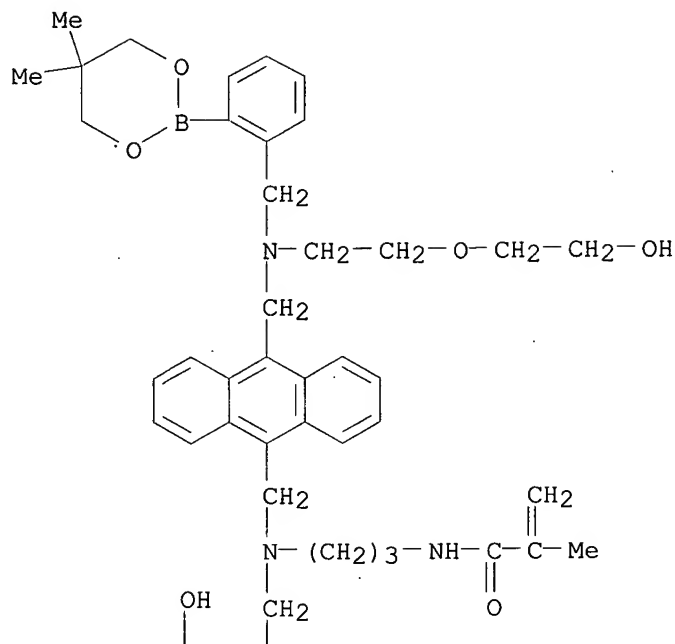


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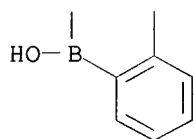


RN 408306-42-3 HCAPLUS
 CN Boronic acid, [2-[[[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl][3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]amino]methyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L52 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:123016 HCAPLUS
 DN 136:184293
 TI Detection of analytes in aqueous environments using fluorescent indicators
 IN Colvin, Arthur E., Jr.
 PA **Sensors for Medicine and Science, Inc., USA**
 SO PCT Int. Appl., 72 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07F005-02
 ICS C07F005-04; G01N033-66
 CC 35-4 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 61
 FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012251	A1	20020214	WO 2001-US24294	20010803
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,				

VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001078145 A5 20020218 AU 2001-78145 20010803
 BR 2001012871 A 20030422 BR 2001-12871 20010803
 EP 1307464 A1 20030507 EP 2001-956112 20010803

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2003003592 A1 20030102 US 2002-193246 20020712
 US 2003008408 A1 20030109 US 2002-193244 20020712
 US 2003013204 A1 20030116 US 2002-193245 20020712
 US 2003013202 A1 20030116 US 2002-193249 20020712

PRAI US 2000-632624 A 20000804
 WO 2001-US24294 W 20010803

AB The indicator copolymer mols. are for detecting the presence or concn. of
 an analyte in a medium, such as a liq. Copolymer macromols. contg.
 relatively hydrophobic indicator component monomers, and hydrophilic
 monomers are capable of dispersing in an aq. environment.

ST fluorescent indicator polymer glucose soln
 IT Fluorescent indicators
 (for detection of analytes in aq. environments)

IT 50-99-7, Glucose, analysis
 RL: ANT (Analyte); ANST (Analytical study)
 (fluorescent monomers and polymers for detection of analytes in aq.
 environments)

IT 130-22-3P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (fluorescent monomers and polymers for detection of analytes in aq.
 environments)

IT 399032-65-6P 399032-68-9P 399032-70-3P 399032-74-7P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (fluorescent monomers and polymers for detection of analytes in aq.
 environments)

IT 79-41-4, Methacrylic acid, reactions 929-06-6, 2-(2-Aminoethoxy)ethanol
 10387-13-0, 9,10-Bis(chloromethyl)anthracene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (fluorescent monomers and polymers for detection of analytes in aq.
 environments)

IT 24463-19-2, 9-Chloromethylanthracene 72607-53-5, N-(3-
 Aminopropyl)methacrylamide hydrochloride 166821-88-1,
 2,2-Dimethylpropane-1,3-diyl[o-(bromomethyl)phenyl]boronate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (fluorescent polymers for detection of analytes in aq. environments)

IT 399032-59-8P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (for detection of analytes in aq. environments)

IT 399032-60-1P 399032-61-2P 399032-66-7P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (intermediate; fluorescent monomers and polymers for detection of
 analytes in aq. environments)

IT 399032-63-4P 399032-64-5P 399032-67-8P
 399032-69-0P 399032-71-4P 399032-72-5P 399032-73-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (prep. and polymn.; fluorescent monomers and polymers for detection of
 analytes in aq. environments)

IT 399032-62-3
 RL: RCT (Reactant); RACT (Reactant or reagent)

(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

IT 399032-57-6P 399032-58-7P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (prep. and polymn.; fluorescent polymers for detection of analytes in aq. environments)

IT 623-27-8, 1,4-Benzenedicarboxaldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with aminopropyl methacrylamide; fluorescent monomers and polymers for detection of analytes in aq. environments)

IT 108366-02-5P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (reaction with boronic acid ester; fluorescent monomers and polymers for detection of analytes in aq. environments)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

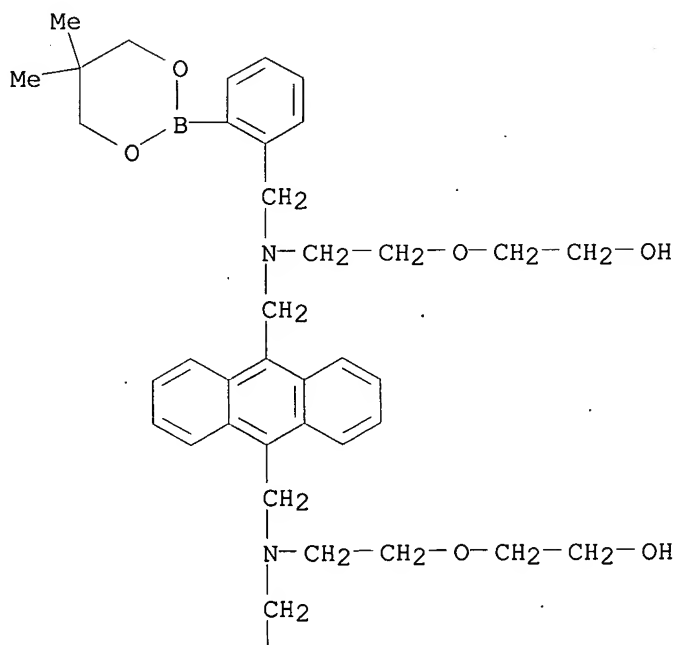
(1) Gen Electric Co Plc; EP 0430510 A 1991 HCAPLUS
 (2) Gruber, H; BBA - GENERAL SUBJECTS 1998, V1381(2), P203 HCAPLUS
 (3) Horng, W; US 5661040 A 1997 HCAPLUS
 (4) Hurskainen, P; US 5256535 A 1993 HCAPLUS
 (5) Nezu, T; BIOMATERIALS 2000, V21(4), P415 HCAPLUS
 (6) Sensors For Medicine And Scien; WO 9946600 A 1999 HCAPLUS
 (7) Wilken, R; MACROMOLECULAR: RAPID COMMUNICATIONS 1997, V18(8), P659 HCAPLUS

IT 399032-66-7P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; fluorescent monomers and polymers for detection of analytes in aq. environments)

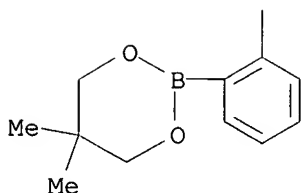
RN 399032-66-7 HCAPLUS

CN Ethanol, 2,2'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl]oxy]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 399032-64-5P 399032-67-8P 399032-69-0P

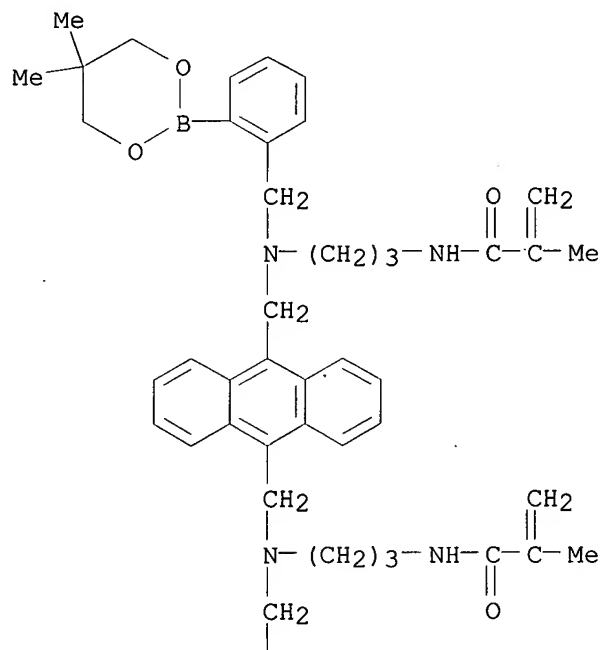
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

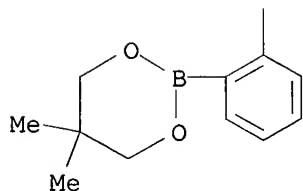
RN 399032-64-5 HCAPLUS

CN 2-Propenamide, N,N'-[9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-3,1-propanediyl]]bis[2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A

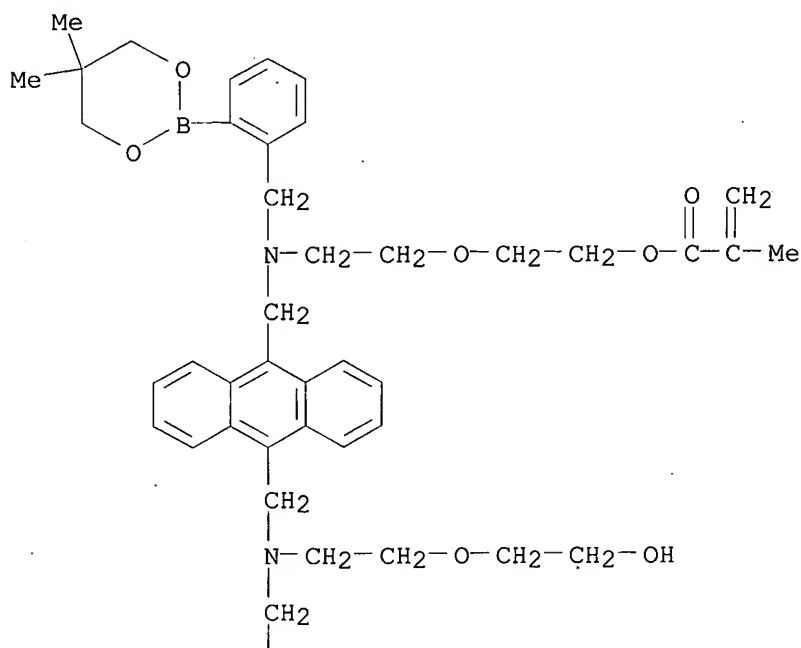


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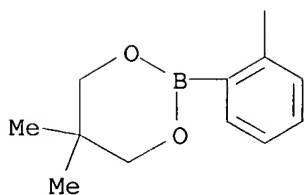


RN 399032-67-8 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-[2-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]ethoxy]ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

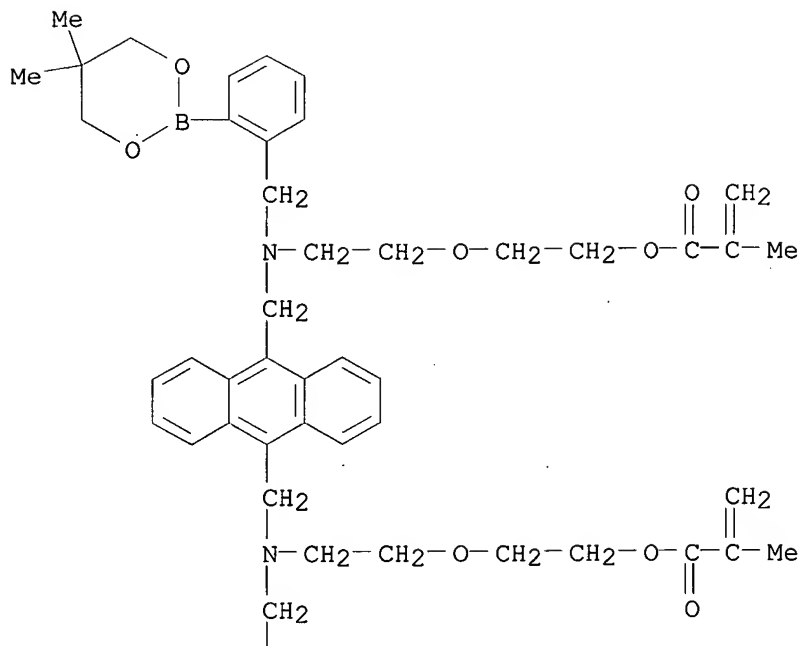


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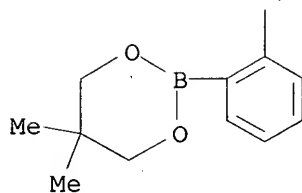


RN 399032-69-0 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 9,10-anthracenediylbis[methylene[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]imino]-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 399032-62-3

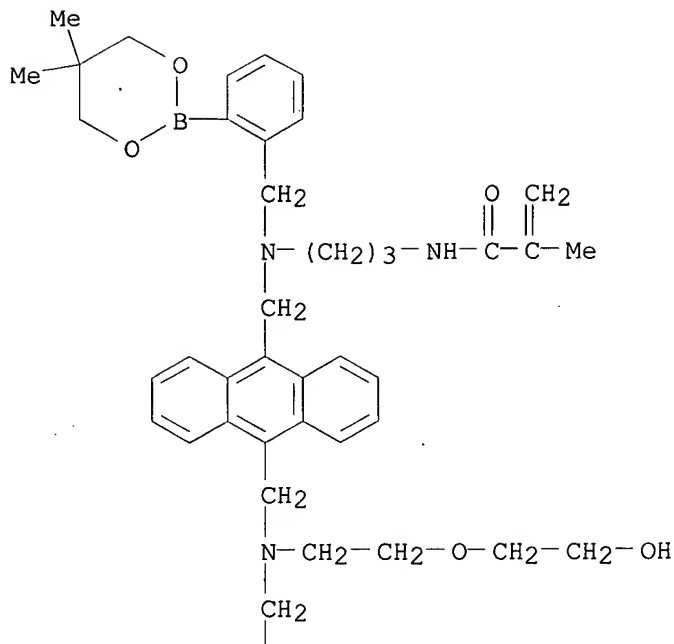
RL: RCT (Reactant); RACT (Reactant or reagent)

(prep. and polymn.; fluorescent monomers and polymers for detection of analytes in aq. environments)

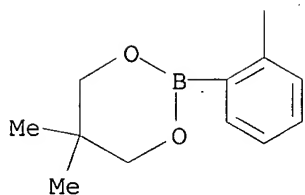
RN, 399032-62-3 HCAPLUS

CN 2-Propenamide, N-[3-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][[10-[[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl][2-(2-hydroxyethoxy)ethyl]amino]methyl]-9-anthracenyl]methyl]amino]propyl]-2-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



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DICTIONARY FILE UPDATES: 5 AUG 2003 HIGHEST RN 561276-83-3

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

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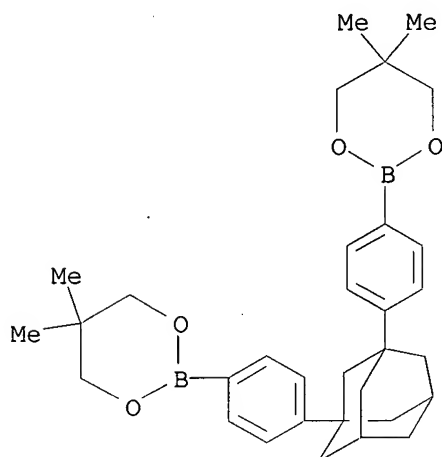
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP

PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> d ide can tot 173

L73 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2003 ACS on STN
RN 269412-04-6 REGISTRY
CN 1,3,2-Dioxaborinane, 2,2'-(tricyclo[3.3.1.1^{3,7}]decane-1,3-diyl-di-4,1-phenylene)bis[5,5-dimethyl- (9CI) (CA INDEX NAME)
MF C32 H42 B2 O4
CI COM
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



3 REFERENCES IN FILE CA (1947 TO DATE)
3 REFERENCES IN FILE CAPLUS (1947 TO DATE)

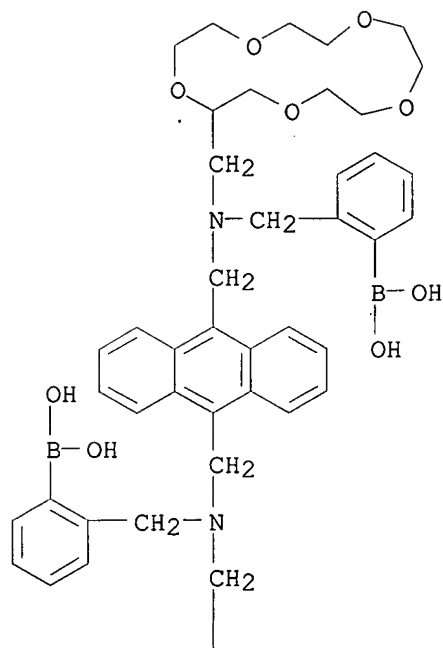
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REFERENCE 2: 133:164413

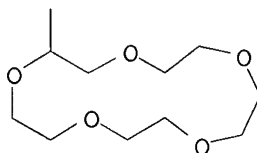
REFERENCE 3: 132:348053

L73 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2003 ACS on STN
RN 168558-56-3 REGISTRY
CN Boronic acid, [9,10-anthracenediylbis[methylene[[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13-pentaoxacyclopentadec-2-yl)methyl]imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)
MF C52 H70 B2 N2 O14
SR CA
LC STN Files: CA, CAPLUS, CASREACT

PAGE 1-A



PAGE 2-A



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1 REFERENCES IN FILE CA (1947 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1947 TO DATE)

REFERENCE 1: 123:228252

L73 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2003 ACS on STN

RN **166821-90-5** REGISTRY

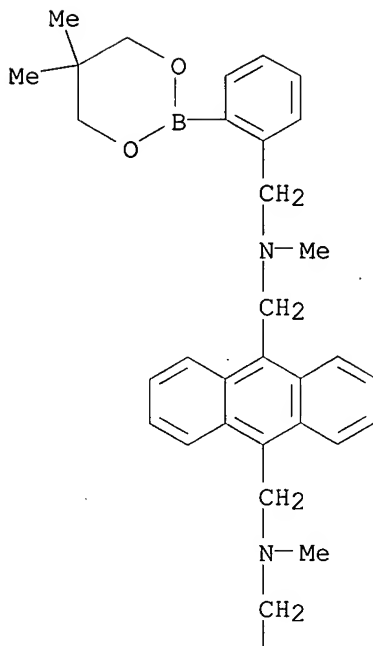
CN 9,10-Anthracenedimethanamine, N,N'-bis[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-N,N'-dimethyl- (9CI) (CA INDEX NAME)

MF C42 H50 B2 N2 O4

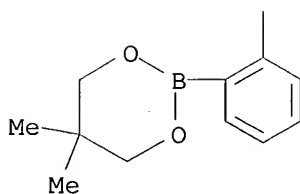
SR CA

LC STN Files: CA, CAPLUS

PAGE 1-A



PAGE 2-A



2 REFERENCES IN FILE CA (1947 TO DATE)
2 REFERENCES IN FILE CAPLUS (1947 TO DATE)

REFERENCE 1: 131:41664

REFERENCE 2: 123:138027

L73 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2003 ACS on STN

RN 162254-07-1 REGISTRY

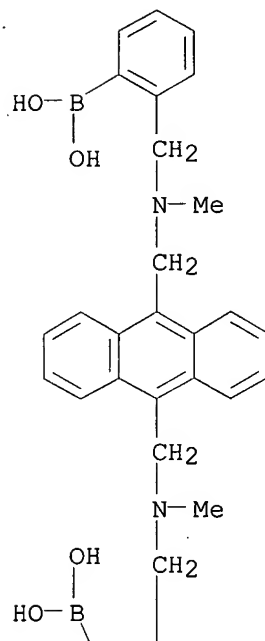
CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

MF C32 H34 B2 N2 O4

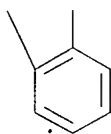
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-A



PAGE 2-A



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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7 REFERENCES IN FILE CAPLUS (1947 TO DATE)

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REFERENCE 2: 135:223593
REFERENCE 3: 134:219381
REFERENCE 4: 125:80937
REFERENCE 5: 123:334134
REFERENCE 6: 123:280304
REFERENCE 7: 123:138027

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FILE 'USPAT2' ENTERED AT 14:39:38 ON 06 AUG 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs hitstr tot 176

L76 ANSWER 1 OF 3 USPATFULL on STN

AN 2002:71071 USPATFULL

TI Minimally invasive methods for measuring analytes in vivo

IN Bell, Michael L., Fullerton, CA, United States

McNeal, Jack D., Long Beach, CA, United States

PA Beckman Coulter, Inc., Fullerton, CA, United States (U.S. corporation)

PI US 6366793 B1 20020402

AI US 1999-393738 19990910 (9)

DT Utility

FS GRANTED

EXNAM Primary Examiner: Winakur, Eric F.

LREP May, William H., Grant, Arnold, Sheldon & Mak

CLMN Number of Claims: 31

ECL Exemplary Claim: 1

DRWN 5 Drawing Figure(s); 3 Drawing Page(s)

LN.CNT 615

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Minimally invasive methods for measuring an analyte, such as glucose, contained in tile interstitial fluid of a body are provided. The methods include the steps of.

(a) providing at least one sensor particle capable of generating a detectable analyte signal in responding to the analyte concentration of the body,

(b) placing the sensor particle into the skin of the body for allowing the sensor particle to be in contact with the interstitial fluid of the body to generate the detectable analyte signal,

(c) detecting the generated analyte signal, and

(d) determining the concentration of the analyte contained in the interstitial fluid.

The sensor particles may be made to be responsive to an analyte such as glucose concentration contained in a body fluid by including a photo-induced electron transfer receptor specific for the analyte in the sensor particle.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

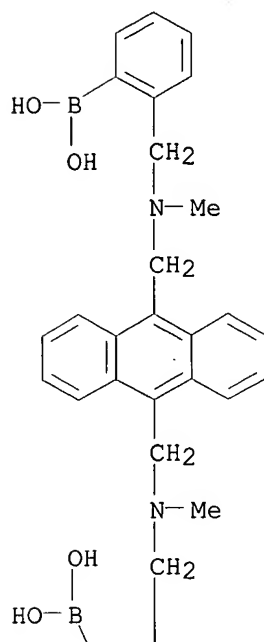
IT 162254-07-1

(minimally invasive methods for measuring analytes in vivo)

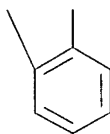
RN 162254-07-1 USPATFULL

CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L76 ANSWER 2 OF 3 USPTFULL on STN
 AN 2001:121179 USPTFULL
 TI Electroluminescent devices having phenylanthracene-based polymers
 IN Zheng, Shiyong, Rochester, NY, United States
 Shi, Jianmin, Webster, NY, United States
 Klubek, Kevin P., Webster, NY, United States
 PA Eastman Kodak Company, Rochester, NY, United States (U.S. corporation)
 PI US 6268072 B1 20010731
 AI US 1999-410767 19991001 (9)
 DT Utility
 FS GRANTED
 EXNAM Primary Examiner: Yamnitzky, Marie; Assistant Examiner: Xu, Ling
 LREP Owens, Raymond L.
 CLMN Number of Claims: 8
 ECL Exemplary Claim: 1
 DRWN 6 Drawing Figure(s); 3 Drawing Page(s)
 LN.CNT 1202
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB An electroluminescent device comprises an anode, a cathode, and polymer luminescent materials disposed between the anode and cathode, the polymeric luminescent materials includes 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers of the following formula: ##STR1##

wherein:

substituents R, R.sub.1, R.sub.2, R.sub.3, R.sub.4 and R.sub.5 are each individually hydrogen, or alkyl or alkoxy of from 1 to 24 carbon atoms; aryl or substituted aryl of from 6 to 28 carbon atoms; or heteroaryl or substituted heteroaryl of from 4 to 40 carbons; or F, Cl, Br; or a cyano group; or a nitro group; wherein

the ratio of $n/(m+n)$ is between 0 to 1 wherein m and n are integers but m cannot be 0; and Y are divalent linking groups.

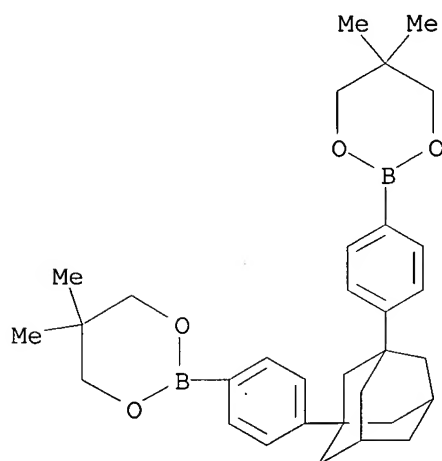
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 269412-04-6P

(org. electroluminescent devices using 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers)

RN 269412-04-6 USPTAFULL

CN 1,3,2-Dioxaborinane, 2,2'-(tricyclo[3.3.1.1^{3,7}]decane-1,3-diyl)-4,1-phenylene)bis[5,5-dimethyl- (9CI) (CA INDEX NAME)



L76 ANSWER 3 OF 3 USPTAFULL on STN

AN 96:26884 USPTAFULL

TI Fluorescent compound suitable for use in the detection of saccharides

IN James, Tony, Fukuoka, Japan

Sandanayake, Saman, Fukuoka, Japan

Shinkai, Seiji, Fukuoka, Japan

PA Research Development Corporation of Japan, Saitama, Japan (non-U.S. corporation).

PI US 5503770 19960402

AI US 1994-336236 19941107 (8)

PRAI JP 1993-302385 19931107

JP 1994-147061 19940606

DT Utility

FS Granted

EXNAM Primary Examiner: Bonner, C. Melissa

LREP Wenderoth, Lind & Ponack

CLMN Number of Claims: 6

ECL Exemplary Claim: 1

DRWN 4 Drawing Figure(s); 4 Drawing Page(s)

LN.CNT 364

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a fluorescent compound of a molecular structure comprising a fluorophore, at least one phenylboronic acid moiety, and at least one amine-providing nitrogen atom where the nitrogen atom is disposed in the

vicinity of the phenylboronic acid moiety so as to interact intermolecularly with the boronic acid. The compound emits fluorescence of a high intensity upon binding to saccharide(s), and is therefore suitable for use in the detection of saccharide(s).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

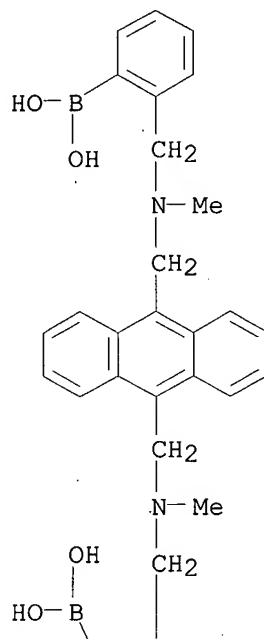
IT 162254-07-1

(fluorescent phenylboronic acids for detection of saccharides)

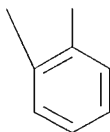
RN 162254-07-1 USPATFULL

CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



=> fil hcaplus

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FILE LAST UPDATED: 5 Aug 2003 (20030805/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L80 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:134552 HCAPLUS
DN 136:321497
TI Rhenium bipyridine complexes for the recognition of glucose
AU Cary, Douglas R.; Zaitseva, Natasha P.; Gray, Kelsey; O'Day, Kira E.; Darrow, Christopher B.; Lane, Stephen M.; Peyser, Thomas A.; Satcher, Joe H., Jr.; Van Antwerp, William P.; Nelson, A. J.; Reynolds, John G.
CS University of California, Lawrence Livermore National Laboratory, Livermore, CA, 94551, USA
SO Inorganic Chemistry (2002), 41(6), 1662-1669
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
CC 9-5 (Biochemical Methods)
AB Bipyridine ligands contg. pendant Me, amino, and amino-boronic acid groups were synthesized. Coordination complexes of these ligands with rhenium were prepd. straightforwardly and in good yield. The fluorescence behavior of the Re complexes was studied as a function of pH and exposure to various concns. of glucose. The Me bipyridine complex showed no change in fluorescence with pH, the amino deriv. showed a rapid decrease from low pH to neutral, and the amino-boronate deriv. showed little change from pH 4 to 10. Fluorescence quenching was obsd. at high pH as expected on the basis of a photoinduced electron transfer (PET) signaling mechanism. This behavior can be explained on the basis of the first oxidn. and redn. potentials of these complexes. Glucose testing showed a significant dependence on the solvent system used. In pure methanol, the rhenium boronate complex exhibited a 55% fluorescence intensity increase upon increasing glucose concn. from 0 to 400 mg/dL. However, in 50 vol % methanol/phosphate buffered saline, none of the complexes showed significant response in the glucose range of physiol. interest.
ST rhenium bipyridine complex recognition glucose
IT Diabetes mellitus
Sensors
pH
(rhenium bipyridine complexes for recognition of glucose)
IT 50-99-7, Glucose, analysis
RL: ANT (Analyte); ANST (Analytical study)
(rhenium bipyridine complexes for recognition of glucose)
IT 99666-78-1P 156742-45-9P 162254-07-1P 330671-19-7P
330671-21-1P 330671-22-2P 330671-24-4P 330671-26-6P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(rhenium bipyridine complexes for recognition of glucose)
IT 100-39-0P 103-67-3P 1134-35-6P 14099-01-5P 81998-05-2P
95752-88-8P 104704-09-8P 166821-88-1P 330649-41-7P 330649-42-8P
330649-43-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(rhenium bipyridine complexes for recognition of glucose)

RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) American Diabetes Association; <http://www.childrenwithdiabetes.com>
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IT 162254-07-1P

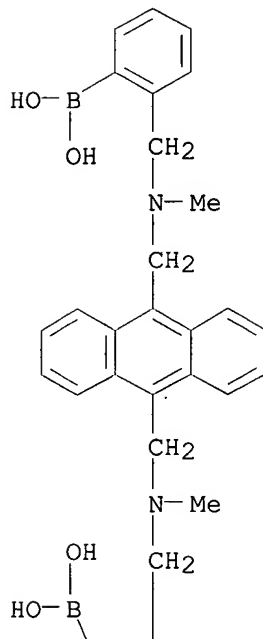
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(Analytical study); PREP (Preparation)

(rhenium bipyridine complexes for recognition of glucose)

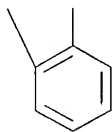
RN 162254-07-1 HCAPLUS

CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-
phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L80. ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:497867 HCAPLUS
 DN 135:223593
 TI Evaluation of two synthetic glucose probes for fluorescence-lifetime-based sensing
 AU DiCesare, Nicolas; Lakowicz, Joseph R.
 CS Center for Fluorescence Spectroscopy, Department of Biochemistry and Molecular Biology, University of Maryland at Baltimore, Baltimore, MD, 21201, USA
 SO Analytical Biochemistry (2001), 294(2), 154-160
 CODEN: ANBCA2; ISSN: 0003-2697
 PB Academic Press
 DT Journal
 LA English
 CC 9-5 (Biochemical Methods)
 AB We evaluated two anthracene derivs. with covalently attached boronic acid groups for fluorescence-lifetime-based sensing of glucose. These anthracene derivs. also contained alkyl amino groups, which quenched the anthracene emission by photo-induced electron transfer. Both anthracene derivs. displayed increased intensities and lifetime in the presence of glucose, as seen from the frequency-domain measurements. A fluorescence lifetime change from 9.8 to 12.4 and 5.7 to 11.8 ns is obsd., after the addn. of glucose, for the anthracene substituted with one and two boronic

acid groups, resp. This results in a change in the phase angle up to 15.degree. and 30.degree. and in the modulation up to 12 and 25% at 30 MHz for these compds., resp. Titrn. curves in the presence of BSA and micelles are also presented to show the potential interferences from biomols. Dissozn. consts. were evaluated for both compds., and assocn. with glucose was found to be reversible. Importantly, the apparent glucose binding consts. are about 5- to 10-fold smaller with phase, modulation, or mean lifetime than with intensities measurements, shifting the glucose-sensitive range to physiol. values. Combining these results and the use of a simple UV-LED as excitation source, the results show an interesting potential of these two compds. in the development of lifetime base devices using synthetic probes for glucose. (c) 2001 Academic Press.

ST glucose probe fluorescence lifetime sensing

IT Electron transfer

Fluorometry

Formation constant

Simulation and Modeling, physicochemical

(synthetic glucose probes for fluorescence-lifetime-based sensing)

IT 50-99-7, Glucose, analysis

RL: ANT (Analyte); ANST (Analytical study)

(synthetic glucose probes for fluorescence-lifetime-based sensing)

IT 156742-45-9 162254-07-1

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(synthetic glucose probes for fluorescence-lifetime-based sensing)

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD

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1997, V46, P271

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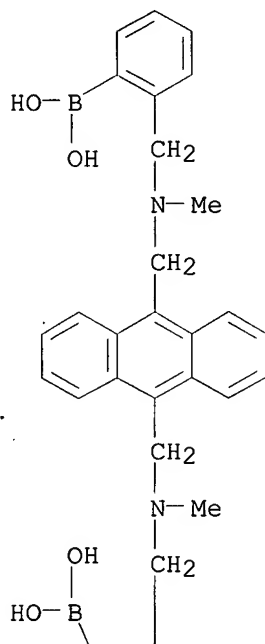
IT 162254-07-1

RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(synthetic glucose probes for fluorescence-lifetime-based sensing)

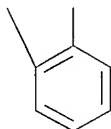
RN 162254-07-1 HCAPLUS

CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L80 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:246603 HCAPLUS

DN 134:287603

TI Electroluminescent devices having phenylanthracene-based polymers

IN Zheng, Shiyong; Shi, Jianmin; Klubek, Kevin P.

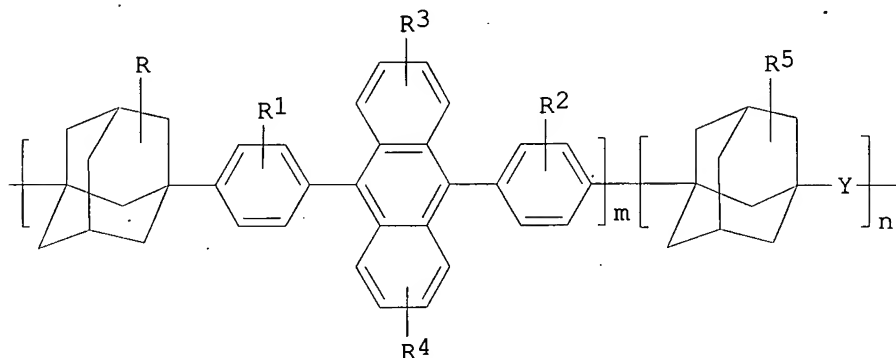
PA Eastman Kodak Company, USA

SO Eur. Pat. Appl., 37 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM C09K011-06
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1088875	A2	20010404	EP 2000-203196	20000914 <--
	EP 1088875	A3	20020626		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6268072	B1	20010731	US 1999-410767	19991001 <--
	JP 2001160491	A2	20010612	JP 2000-301079	20000929 <--
PRAI	US 1999-410767	A	19991001	<--	

GI



I

AB Electroluminescent devices comprising an anode, a cathode, and polymer luminescent materials disposed between the anode and cathode are described in which the polymeric luminescent material include 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers described by the general formula I (R, R1, R2, R3, R4, and R5 = individually selected H, C1-24 alkyl or C1-24 alkoxy, (un)substituted C6-28 aryl, (un)substituted C4-40 heteroaryl groups, or F, Cl, Br, a cyano group, or a nitro group; $n/(m+n) = 0$ to 1; m and n are integers but m cannot be 0; and Y are divalent linking groups).

ST org electroluminescent device adamantanyl phenyl phenylanthracene polymer

IT Phosphors
 (electroluminescent; org. electroluminescent devices using 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers)

IT Electroluminescent devices
 (org.; org. electroluminescent devices using 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers)

IT 332083-47-3P 332083-48-4P 332083-49-5P 332083-50-8P 332083-51-9P
 332083-52-0P 332083-53-1P 332083-54-2P 332083-55-3P 332083-56-4P
 332344-74-8P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (org. electroluminescent devices using 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers)

IT 4805-22-5P, 5,5'-Dibromo-2,2'-bithiophene 18798-85-1P 18800-99-2P

31592-26-4P 40189-21-7P, 1,3-Diphenyladamantane 62375-58-0P
 83102-75-4P 99964-58-6P 117766-40-2P 182684-43-1P 207799-29-9P
 210347-59-4P **269412-04-6P** 269729-93-3P 332083-42-8P
 332083-43-9P 332083-44-0P 332083-45-1P 332083-46-2P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(org. electroluminescent devices using 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers)

IT 83-56-7, 1,5-Dihydroxynaphthalene 84-60-6, 2,6-Dihydroxyanthraquinone
 98-06-6, tert-Butyl benzene 492-97-7, 2,2'-Bithiophene 768-90-1,
 1-Bromoadamantane 2712-78-9, Bis[(trifluoroacetoxy)iodo]benzene
 3236-71-3 18908-66-2, 2-Ethylhexyl bromide 32703-79-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(org. electroluminescent devices using 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers)

IT 38186-51-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(org. electroluminescent devices using 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers)

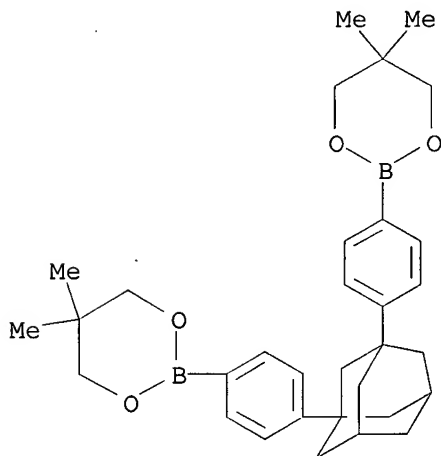
IT **269412-04-6P**

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(org. electroluminescent devices using 9-(4-adamantanyl)phenyl)-10-phenylanthracene-based polymers)

RN 269412-04-6 HCAPLUS

CN 1,3,2-Dioxaborinane, 2,2'-(tricyclo[3.3.1.1^{3,7}]decane-1,3-diyl)-4,1-phenylene)bis[5,5-dimethyl- (9CI) (CA INDEX NAME)



L80 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:186026 HCAPLUS

DN 134:219381

TI Minimally invasive methods for measuring analytes in vivo

IN Bell, Michael L.; McNeal, Jack D.

PA Beckman Coulter, Inc., USA

SO PCT Int. Appl., 21 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G01N033-66

CC 9-16 (Biochemical Methods)

FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

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PI WO 2001018543      A1  20010315      WO 2000-US24438  20000906 <--
    W: JP
    RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
        PT, SE
    US 6366793      B1  20020402      US 1999-393738  19990910 <--
    EP 1129353      A1  20010905      EP 2000-959941  20000906 <--
    R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
        IE, FI
    JP 2003508186    T2  20030304      JP 2001-522081  20000906 <--
PRAI US 1999-393738    A   19990910  <--
    WO 2000-US24438    W   20000906  <--
AB  Minimally invasive methods for measuring an analyte, such as glucose,
    contained in the interstitial fluid of a body are provided. The methods
    include the steps of: (a) providing at least one sensor particle capable
    of generating a detectable analyte signal in responding to the analyte
    concn. of the body, (b) placing the sensor particle into the skin of the
    body for allowing the sensor particle to be in contact with the
    interstitial fluid of the body to generate the detectable analyte signal,
    (c) detecting the generated analyte signal, and (d) detg. the concn. of
    the analyte contained in the interstitial fluid. The sensor particles may
    be made to be responsive to an analyte such as glucose concn. contained in
    a body fluid by including a photo-induced electron transfer receptor
    specific for the analyte in the sensor particle.
ST  minimally invasive analyte
IT  Polymers, analysis
    RL: ARU (Analytical role, unclassified); ANST (Analytical study)
        (Bio-resorbable; minimally invasive methods for measuring analytes in
        vivo)
IT  Particles
    (Hydrophilic; minimally invasive methods for measuring analytes in
    vivo)
IT  Particles
    (Hydrophobic insol.; minimally invasive methods for measuring analytes
    in vivo)
IT  Glass, analysis
    RL: ARU (Analytical role, unclassified); ANST (Analytical study)
        (controlled pore; minimally invasive methods for measuring analytes in
        vivo)
IT  Body fluid
    (interstitial; minimally invasive methods for measuring analytes in
    vivo)
IT  Body, anatomical
    Body fluid
    Concentration (condition)
    Electron transfer
    Fluorescent substances
    Gels
    Latex
    Particles
    Sensors
    Skin
    Vertebrate (Vertebrata)
        (minimally invasive methods for measuring analytes in vivo)
IT  Receptors
    RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
        (minimally invasive methods for measuring analytes in vivo)
IT  Gelatins, analysis
    RL: ARU (Analytical role, unclassified); ANST (Analytical study)
        (minimally invasive methods for measuring analytes in vivo)
IT  Glass, analysis
    RL: ARU (Analytical role, unclassified); ANST (Analytical study)
        (minimally invasive methods for measuring analytes in vivo)

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IT Glass beads
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(minimally invasive methods for measuring analytes in vivo)

IT Polymers, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(minimally invasive methods for measuring analytes in vivo)

IT Polymers, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(minimally invasive methods for measuring analytes in vivo)

IT IR radiation
(near-IR; minimally invasive methods for measuring analytes in vivo)

IT Membranes, nonbiological
(semipermeable; minimally invasive methods for measuring analytes in vivo)

IT 50-99-7, D-Glucose, analysis 26780-50-7, Poly-DL-lactide-co-glycolide
RL: ANT (Analyte); ANST (Analytical study)
(minimally invasive methods for measuring analytes in vivo)

IT 496-15-1D, Indoline, derivs. 13780-71-7D, Boronic acid, derivs.
162254-07-1
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(minimally invasive methods for measuring analytes in vivo)

IT 9002-86-2D, Polyvinyl chloride, plasticized 9003-53-6, Polystyrene
9005-25-8, Starch, analysis 26009-03-0, Polyglycolic acid 26124-68-5,
Polyglycolic acid
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(minimally invasive methods for measuring analytes in vivo)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

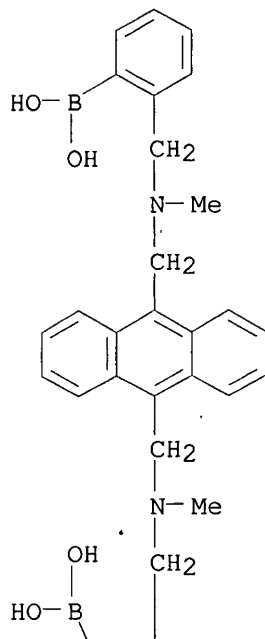
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(5) Univ Pittsburgh; WO 0064492 A 2000 HCAPLUS

IT **162254-07-1**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(minimally invasive methods for measuring analytes in vivo)

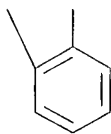
RN 162254-07-1 HCAPLUS

CN Boronic acid, [9,10-anthracenediylbis(methylene(methylimino)methylene-2,1-phenylene)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L80 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2000:425799 HCAPLUS
 DN 133:164413
 TI Novel Blue Light Emitting Polymer Containing an Adamantane Moiety
 AU Zheng, Shiyang; Shi, Jianmin; Mateu, Raphael
 CS Eastman Kodak Company, Rochester, NY, 14650, USA
 SO Chemistry of Materials (2000), 12(7), 1814-1817
 CODEN: CMATEX; ISSN: 0897-4756
 PB American Chemical Society
 DT Journal
 LA English
 CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 37
 AB A blue light emitting polymer contg. a naphthalenevinylene segment and an adamantane (Ad) spacer group as well as a green light emitting polymer with a phenylenevinylene segment and an Ad-spacer were synthesized and characterized. Their thermal stability, glass transition temp., and soly. were detd. and their UV-vis, photoluminescence and electroluminescence spectra were recorded and compared with those of relevant model compds. The polymers showed good soly. and excellent thermal stability. The incorporation of the rigid Ad-units increased glass transition and thermal decompn. temp. The Ad-moiety acts as an efficient .pi.-conjugation interrupter and enables the tuning of the emitting color by control of

- conjugation length.
- ST adamantane polynaphththalenevinylene polyphenylenevinylene luminescence
electroluminescence LED; adamantyl phenylenevinylene naphthalenevinylene
monomer prepn polymn
- IT Electric current-potential relationship
Glass transition temperature
Luminescence
Luminescence, electroluminescence
(prepn. and light emitting properties of adamantane unit-contg.
polynaphthalenevinylene and polyphenylenevinylene)
- IT Poly(arylenealkenylenes)
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and light emitting properties of adamantane unit-contg.
polynaphthalenevinylene and polyphenylenevinylene)
- IT Monomers
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and polymn. of adamantane or phenylenevinylene or
naphthalenevinylene-contg. monomers)
- IT 269412-05-7P 269729-98-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model compd.; prepn. and light emitting properties of adamantane
unit-contg. polynaphthalenevinylene and polyphenylenevinylene)
- IT **269412-04-6P** 269729-93-3P 269729-94-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(monomer; prepn. and polymn. of adamantane or phenylenevinylene or
naphthalenevinylene-contg. monomers)
- IT 269729-95-5P 269729-96-6P 269729-97-7P 269735-69-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and light emitting properties of adamantane unit-contg.
polynaphthalenevinylene and polyphenylenevinylene)
- IT 98-80-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and light emitting properties of adamantane unit-contg.
polynaphthalenevinylene and polyphenylenevinylene)
- IT 83-56-7, 1,5-Dihydroxynaphthalene 106-21-8 121-43-7, Trimethyl borate
122-52-1, Triethyl phosphite 126-30-7 150-76-5, 4-Methoxyphenol
638-45-9, 1-Iodohexane 1122-91-4, 4-Bromobenzaldehyde 20677-12-7
83102-75-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and polymn. of adamantane or phenylenevinylene or
naphthalenevinylene-contg. monomers)
- IT 84-59-3P, 2,6-Dibromo-1,5-dihydroxynaphthalene 3383-83-3P,
1-Bromo-3,7-dimethyloctane 182684-43-1P 207799-29-9P 209347-80-8P
287919-00-0P 287919-01-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and polymn. of adamantane or phenylenevinylene or
naphthalenevinylene-contg. monomers)

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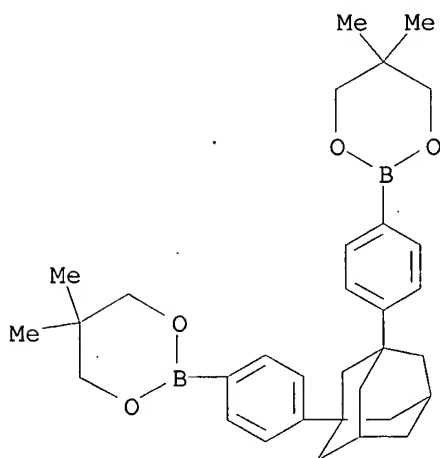
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IT 269412-04-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer; prepn. and polymn. of adamantane or phenylenevinylene or naphthalenevinylene-contg. monomers)

RN 269412-04-6 HCAPLUS

CN 1,3,2-Dioxaborinane, 2,2'-(tricyclo[3.3.1.1^{3,7}]decane-1,3-diyl-di-4,1-phenylene)bis[5,5-dimethyl- (9CI) (CA INDEX NAME)

L80 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:208441 HCAPLUS

DN 132:348053

TI Novel blue light emitting polymers

AU Zheng, Shiyang; Shi, Jianmin; Mateu, Raphaele

CS Eastman Kodak Company, Rochester, NY, 14650, USA

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2000), 41(1), 822-823

CODEN: ACPPAY; ISSN: 0032-3934

PB American Chemical Society, Division of Polymer Chemistry

DT Journal

LA English

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73

AB Light-emitting polymers contg. rigid adamantane moiety in the main chain and naphthalene vinylene or phenylene vinylene chromophore segments were synthesized via Suzuki coupling reaction; the polymers, I and II, resp., are sol. in org. solvents and have av. mol. wt. of 18,000. The adamantane units led to significant increase of Tg to above 150.degree. and of thermal decompn. temp. (Td) to above 360.degree.. Polymers and model compds. show almost identical absorption and emission spectra in soln. The adamantane unit is an efficient n-conjugation interrupter. Films of polymer I show strong photoluminescence peaks at 470 nm in the blue region and a single-layer LED also emitted blue light at 470 nm. In contrast, the photoluminescence and electroluminescence peaks of polymer II appear in the green region at 516 nm. The replacement of a benzene ring with a naphthalene unit alters the effective conjugation length of the luminophor resulting in a blue shift. The single-layer LED of both polymers shows relatively low turn-on voltage, 5.5 V for polymer I and 10.5 V for polymer II.

ST adamantane naphthalene vinylene copolymer prepn luminescence; phenylene vinylene adamantane copolymer prepn Suzuki coupling; conjugation length polyphenylenevinylene polynaphthalenevinylene adamantane moiety

IT Polymerization

(Suzuki coupling; prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT Poly(arylenealkenylenes)

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(adamantane-contg.; prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT Polymers, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(conjugated; prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT Polymer chains

(conjugation length; prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT Glass transition temperature

Luminescence

Luminescence, electroluminescence

Optical absorption

Suzuki coupling reaction

(prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT 40189-21-7P, 1,3-Diphenyladamantane 83102-75-4P, 1,3-Bis(4-iodophenyl)adamantane

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT 269412-05-7P 269729-98-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(model compd.; prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT 269412-04-6P 269729-93-3P 269729-94-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer; prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT 269729-95-5P 269729-96-6P 269729-97-7P 269735-69-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

IT 71-43-2, Benzene, reactions 121-43-7, Trimethoxyboron 126-30-7
768-90-1, 1-Bromoadamantane 1122-91-4, p-Bromobenzaldehyde 20677-12-7,
Diethyl 4-bromophenylphosphonate 182684-43-1 209347-80-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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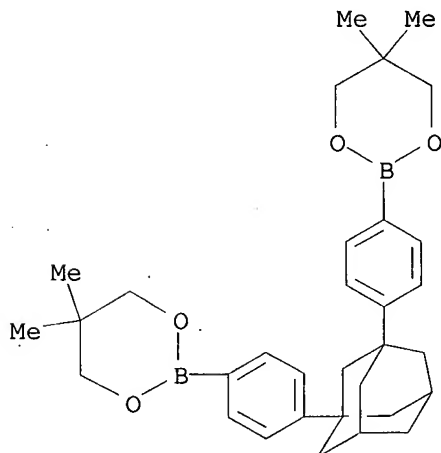
IT 269412-04-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer; prepn. of monomers and Suzuki coupling polymn. to obtain blue light emitting poly(arylene vinylene-adamantane) conjugated polymers)

RN 269412-04-6 HCAPLUS

CN 1,3,2-Dioxaborinane, 2,2'-(tricyclo[3.3.1.1^{3,7}]decane-1,3-diyl-di-4,1-phenylene)bis[5,5-dimethyl- (9CI) (CA INDEX NAME)



L80 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:136451 HCAPLUS
DN 131:41664
TI A fluorescent glucose sensor binding covalently to all five hydroxy groups of .alpha.-D-glucofuranose. A reinvestigation
AU Bielecki, Mia; Eggert, Hanne; Norrild, Jens Chr.
CS Department of Chemistry, University of Copenhagen, Copenhagen, DK-2100, Den.
SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1999), (3), 449-456
CODEN: JCPKBH; ISSN: 0300-9580
PB Royal Society of Chemistry
DT Journal
LA English
CC 9-5 (Biochemical Methods)
AB The structures of the complexes between a fluorescent bisboronic acid 7 and glucose have been detd. Shinkai et al.1 previously studied the complex between 7 and glucose and they deduced a 1,2:4,6-.alpha.-D-glucopyranose bisboronate structure. We have shown that this structure is only valid as an initial complex formed under completely nonaq. conditions. In the presence of water the pyranose complex rearranges rapidly into an .alpha.-D-glucofuranose-1,2:3,5,6-bisboronate in which all five free hydroxy groups of glucose are covalently bound by the sensor mol. A favorable B-N interaction around the 1,2-binding site and the effect of an o-ammoniomethyl group on the pKa value of the second boronic acid group allow for the obsd. binding at neutral pH. The structure evaluations are based on 1H and 13C NMR data as well as information obtained from 1JCC coupling consts. The fluorescence spectra of both complexes were measured and discussed. MALDI TOF-MS expts. showed competitive formation of 1:2 (boronic acid:glucose) complexes under conditions of physiol. glucose levels.
ST fluorescent glucose sensor glucofuranose hydroxy group binding
IT Biosensors
Conformation
NMR (nuclear magnetic resonance)
(a fluorescent glucose sensor binding covalently to all five hydroxy groups of .alpha.-D-glucofuranose)
IT 227316-54-3P 227316-55-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(a fluorescent glucose sensor binding covalently to all five hydroxy groups of .alpha.-D-glucofuranose)
IT 126-30-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(a fluorescent glucose sensor binding covalently to all five hydroxy groups of .alpha.-D-glucofuranose)
IT 16419-60-6P, 2-Methylphenylboronic acid 34373-96-1P 91983-14-1P, o-(Bromomethyl)phenylboronic acid 166821-88-1P **166821-90-5P** 169324-44-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(a fluorescent glucose sensor binding covalently to all five hydroxy groups of .alpha.-D-glucofuranose)
IT 161963-14-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(rearrangement; a fluorescent glucose sensor binding covalently to all five hydroxy groups of .alpha.-D-glucofuranose)
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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IT 166821-90-5P

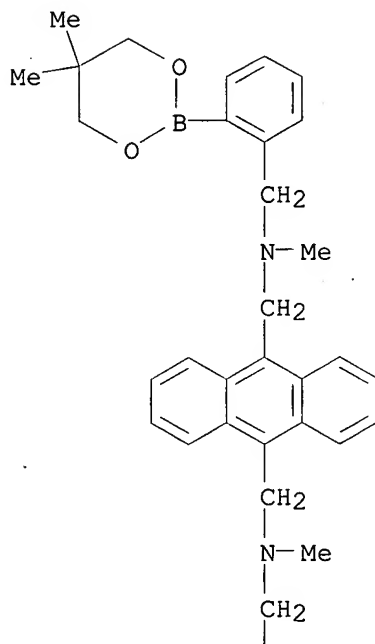
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(a fluorescent glucose sensor binding covalently to all five hydroxy
groups of .alpha.-D-glucofuranose)

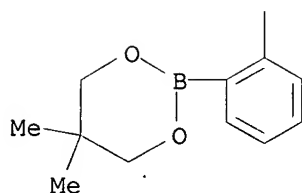
RN 166821-90-5 HCAPLUS

CN 9,10-Anthracenedimethanamine, N,N'-bis[[2-(5,5-dimethyl-1,3,2-dioxaborinan-
2-yl)phenyl)methyl]-N,N'-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

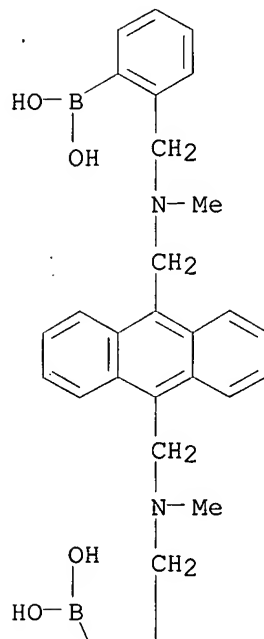


- L80 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1996:334502 HCAPLUS
 DN 125:80937
 TI Molecular design of artificial sugar sensing systems
 AU Shinkai, Seiji; Takeuchi, Makayuki
 CS Professor Chem. Dep. Chem. Sci. Technol., Faculty Eng., Kyushu Univ.,
 Fukuoka, 812, Japan
 SO TrAC, Trends in Analytical Chemistry (1996), 15(5), 188-194
 CODEN: TTAEDJ; ISSN: 0165-9936
 PB Elsevier
 DT Journal
 LA English
 CC 9-5 (Biochemical Methods)
 Section cross-reference(s): 13, 80
 AB For the development of new receptor mols. that can precisely recognize
 sugar mols., we synthesized a no. of diboronic acids. Since one boronic
 acid can react with two OH groups (one diol group) to form a boronate
 ester, one diboronic acid can immobilize two diol units to form a
 sugar-contg. macrocycle. The selectivity can be tuned by the relative
 spatial position of the two boronic acids and the complexation event can
 be read out by CD spectroscopy. When a boronic acid group is combined

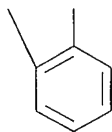
intramolecularly with an aminomethyl fluorophore, the complexation event can be conveniently read out by fluorescence spectroscopy. This is a novel application of a PET (photoinduced electron transfer) sensor: the sugar-binding changes the strength of the B.cntdot..cntdot..cntdot.N interaction, which eventually changes the fluorescence quenching efficiency of the amine. We demonstrated, by using a chiral 1,1'-binaphthyl group as a fluorophore, that even chiral recognition of sugars is possible. These abundant examples support the superiority of boronic-acid-based covalent bond recognition over hydrogen-bond-based noncovalent bond recognition for sugars in water.

- ST sugar sensor artificial receptor boronic acid; water sugar detection
artificial receptor; photoinduced electron transfer sensor sugar
- IT Carbohydrates and Sugars, analysis
RL: ANT (Analyte); ANST (Analytical study)
(mol. design of artificial sugar sensing systems)
- IT Receptors
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(mol. design of artificial sugar sensing systems)
- IT Circular dichroism spectroscopy
(mol. design of artificial sugar sensing systems mol. design of artificial sugar sensing systems)
- IT Sensors
(photoinduced electron transfer; mol. design of artificial sugar sensing systems)
- IT Spectrochemical analysis
(fluorometric, mol. design of artificial sugar sensing systems)
- IT 7732-18-5, Water, analysis
RL: AMX (Analytical matrix); ANST (Analytical study)
(mol. design of artificial sugar sensing systems)
- IT 50-99-7, D-Glucose, analysis 7776-48-9, L-Fructose
RL: ANT (Analyte); ANST (Analytical study)
(mol. design of artificial sugar sensing systems)
- IT 133968-06-6 144987-66-6 156742-45-9 159614-36-5 **162254-07-1**
162440-79-1 162440-80-4 173394-23-5
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(mol. design of artificial sugar sensing systems)
- IT **162254-07-1**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(mol. design of artificial sugar sensing systems)
- RN 162254-07-1 HCAPLUS
- CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

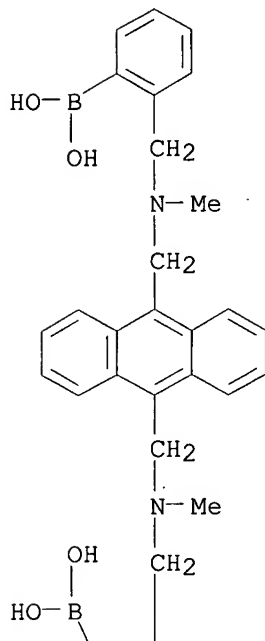


L80 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:878895 HCAPLUS
 DN 123:280304
 TI Fluorescent phenylboronic acids for detection of saccharides
 IN James, Tony; Sandanayake, Saman; Shinkai, Seiji
 PA Research Development Corporation of Japan, Japan
 SO Brit. UK Pat. Appl., 24 pp.
 CODEN: BAXXDU
 DT Patent
 LA English
 IC ICM C07F005-02
 ICS C09K011-06
 CC 9-15 (Biochemical Methods)
 FAN.CNT 1

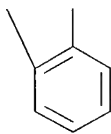
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2284809	A1	19950621	GB 1994-22327	19941104 <--
	GB 2284809	B2	19980429		
	JP 08053467	A2	19960227	JP 1994-293879	19941101 <--
	JP 2883824	B2	19990419		
	US 5503770	A	19960402	US 1994-336236	19941107 <--
	DE 4439783	A1	19980507	DE 1994-4439783	19941107 <--
	DE 4439783	C2	20020808		

PRAI JP 1993-302385 A 19931107 <--
JP 1994-147061 A 19940606 <--
OS MARPAT 123:280304
GI For diagram(s), see printed CA Issue.
AB Fluorophore I (R1 = aryl, preferably anthryl; R2 = alkyl, aryl; m, n = 0-2), in which an amino N atom can interact intramolecularly with the boronic acid, emits high-intensity fluorescence upon binding to saccharide(s), and is therefore suitable for use in the detection of saccharide(s). Thus, o-tolylmagnesium bromide reacted with tri-Me borate to form o-tolylboronic anhydride, which was brominated on the Me group with N-bromosuccinimide and refluxed with 9-(methylamino)methylantracene to form I (R1 = 9-anthryl, R2 = Me) (II). An aq. soln. of II fluoresced intensely in the presence of glucose or fructose.
ST sugar fluorometric detn phenylboronate
IT Carbohydrates and Sugars, analysis
RL: ANT (Analyte); ANST (Analytical study)
(fluorescent phenylboronic acids for detection of saccharides)
IT Spectrochemical analysis
(fluorometric, fluorescent phenylboronic acids for detection of saccharides)
IT 50-99-7, D-Glucose, analysis 57-48-7, D-Fructose, analysis 59-23-4, D-Galactose, analysis
RL: ANT (Analyte); ANST (Analytical study)
(fluorescent phenylboronic acids for detection of saccharides)
IT 156742-45-9 **162254-07-1**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(fluorescent phenylboronic acids for detection of saccharides)
IT 121-43-7, Trimethyl borate 932-31-0, o-Tolylmagnesium bromide 73356-19-1, 9-(Methylamino)methylantracene 169324-44-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(fluorescent phenylboronic acids for detection of saccharides)
IT **162254-07-1**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(fluorescent phenylboronic acids for detection of saccharides)
RN 162254-07-1 HCAPLUS
CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

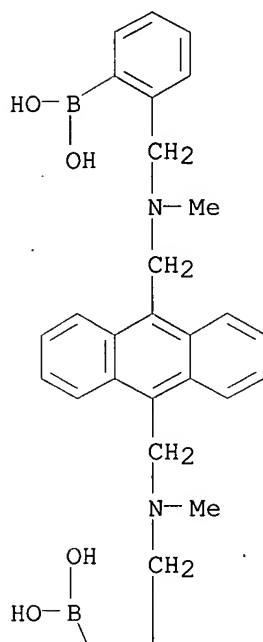


L80 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:751078 HCAPLUS
 DN 123:138027
 TI Novel saccharide-photoinduced electron transfer sensors based on the interaction of boronic acid and amine
 AU James, Tony D.; Sandanayake, K. R. A. Samankumara; Iguchi, Ritsuko; Shinkai, Seiji
 CS ERATO, Research Development Corporation of Japan, Kurume, 830, Japan
 SO Journal of the American Chemical Society (1995), 117(35), 8982-7
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society
 DT Journal
 LA English
 CC 9-12 (Biochemical Methods)
 Section cross-reference(s): 80
 AB Two boronic acid systems, monoboronic acid 3 and diboronic acid 8, were synthesized. When saccharides form cyclic boronate esters with these boronic acids, the Lewis acid-base interaction between the boronic acid moiety and tertiary amine is strengthened; when saccharides form cyclic boronate esters with boronic acids the acidity of the boronic acid is enhanced. The strength of this acid-base interaction modulates the photoinduced electron transfer (PET) from the amine to anthracene. Both of these compds. show increased fluorescence at pH 7.77 through

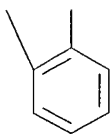
suppression of the photoinduced electron transfer from nitrogen to anthracene on saccharide binding, a direct result of the stronger boron-nitrogen bond. Compd. 3 shows the typical selectivity of monoboronic acids towards saccharides. Compd. 8 which has a cleftlike structure is particularly selective and sensitive for glucose due to the formation of an intramol. 1:1 complex between the two boronic acids and the 1,2- and 4,6-hydroxyls of glucose. This is the first example in which ditopic recognition of monosaccharides is achieved in a PET sensor system.

- ST Monosaccharide detn sensor boronic acid amine; saccharide electron transfer sensor
- IT Electron exchange and Charge transfer
Fluorescence
Sensors
(novel saccharide-photoinduced electron transfer sensors based on interaction of boronic acid and amine)
- IT Monosaccharides
RL: ANT (Analyte); ANST (Analytical study)
(novel saccharide-photoinduced electron transfer sensors based on interaction of boronic acid and amine)
- IT 50-99-7, Glucose, analysis 57-48-7, Fructose, analysis 59-23-4, Galactose, analysis 107-21-1, 1,2-Ethanediol, analysis 6038-51-3, Allose
RL: ANT (Analyte); ANST (Analytical study)
(novel saccharide-photoinduced electron transfer sensors based on interaction of boronic acid and amine)
- IT 156742-45-9P **162254-07-1P**
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(novel saccharide-photoinduced electron transfer sensors based on interaction of boronic acid and amine)
- IT 7294-50-0 7481-16-5 91994-11-5 166821-89-2 **166821-90-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(novel saccharide-photoinduced electron transfer sensors based on interaction of boronic acid and amine)
- IT 166821-88-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(novel saccharide-photoinduced electron transfer sensors based on interaction of boronic acid and amine)
- IT **162254-07-1P**
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(novel saccharide-photoinduced electron transfer sensors based on interaction of boronic acid and amine)
- RN 162254-07-1 HCAPLUS
- CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 166821-90-5

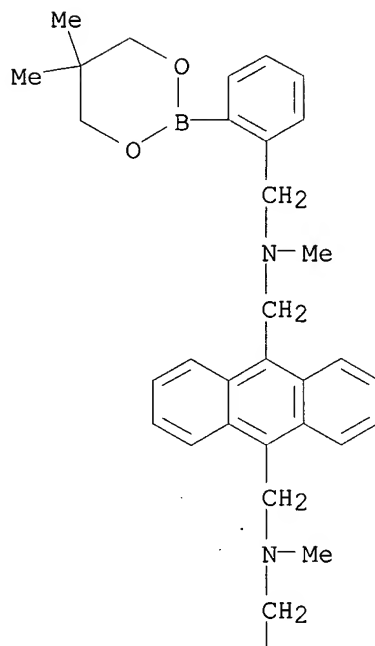
RL: RCT (Reactant); RACT (Reactant or reagent)

(novel saccharide-photoinduced electron transfer sensors based on interaction of boronic acid and amine)

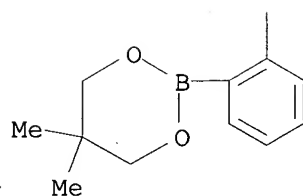
RN 166821-90-5 HCAPLUS

CN 9,10-Anthracenedimethanamine, N,N'-bis[[2-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)phenyl]methyl]-N,N'-dimethyl- (9CI) (CA INDEX NAME)

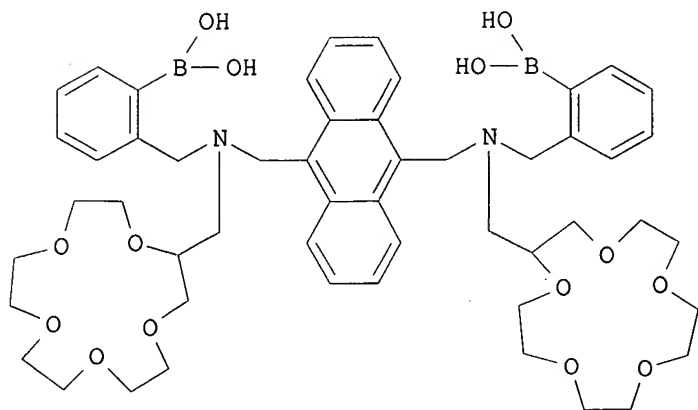
PAGE 1-A



PAGE 2-A



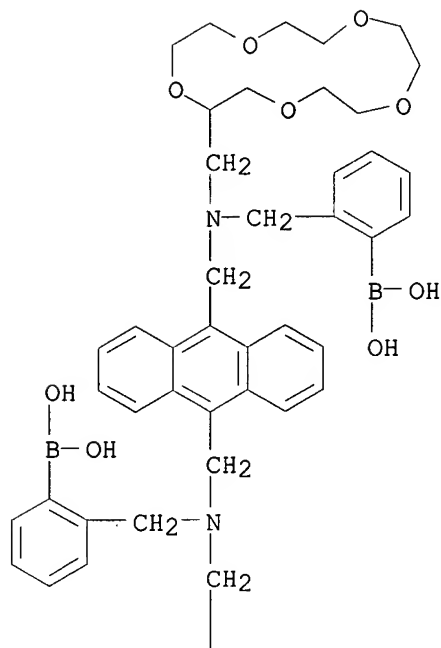
L80 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1995:713232 HCAPLUS
DN 123:228252
TI A diboronic acid 'glucose cleft' and a biscrown ether 'metal sandwich' are
allosterically coupled
AU James, Tony D.; Shinkai, Seiji
CS CHEMIRECOGNICS Project, ERATO, Res. Dev. Corp. of Japan, Kurume, 830,
Japan
SO Journal of the Chemical Society, Chemical Communications (1995),
(14), 1483-5
CODEN: JCCCAT; ISSN: 0022-4936
PB Royal Society of Chemistry
DT Journal
LA English
CC 29-4 (Organometallic and Organometalloidal Compounds)
OS CASREACT 123:228252
GI



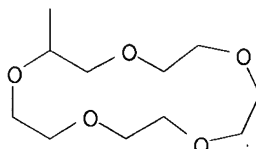
I

- AB Glucose is released from the diboronic acid 'cleft' I when a metal 'sandwich' is formed by two 15-crown-5 rings; the binding events are sensitively monitored by changes in the fluorescence intensity.
- ST diboronic acid glucose cleft biscrown ether; fluorescence biscrown ether metal sandwich diboronic
- IT Fluorescence
(a diboronic acid glucose cleft and a biscrown ether metal sandwich are allosterically coupled and monitored by changes in the fluorescence intensity)
- IT 50-99-7, D-Glucose, reactions 7044-91-9, 9,10-Anthracenedicarboxaldehyde 7439-93-2D, Lithium, cation 7440-09-7D, Potassium, cation 7440-23-5D, Sodium, cation 7440-24-6D, Strontium, cation 7440-39-3D, Barium, cation 7440-46-2D, Cesium, cation 83585-56-2 166821-88-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(a diboronic acid glucose cleft and a biscrown ether metal sandwich are allosterically coupled and monitored by changes in the fluorescence intensity)
- IT 168558-55-2P **168558-56-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(a diboronic acid glucose cleft and a biscrown ether metal sandwich are allosterically coupled and monitored by changes in the fluorescence intensity)
- IT **168558-56-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(a diboronic acid glucose cleft and a biscrown ether metal sandwich are allosterically coupled and monitored by changes in the fluorescence intensity)
- RN 168558-56-3 HCAPLUS
- CN Boronic acid, [9,10-anthracenediylbis[methylene[[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13-pentaoxacyclopentadec-2-yl)methyl]imino]methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L80 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:366466 HCAPLUS
 DN 123:334134
 TI A glucose-specific molecular fluorescence sensor
 AU James, Tony D.; Sandanayake, K. R. A. Samankumara; Shinkai, Seiji
 CS Shinkai Chemirecognics Project, ERATO, Aikawa, 2432-3, Japan
 SO Angewandte Chemie (1994), 106(21), 2287-9
 CODEN: ANCEAD; ISSN: 0044-8249
 PB VCH
 DT Journal
 LA Japanese
 CC 9-5 (Biochemical Methods)
 Section cross-reference(s): 80
 AB Glucose can be detd. in the physiol. range in blood by fluorometry using as photoinduced electron transfer sensor a 9,10-bis-aminomethylantracene deriv. contg. 2 boronic acid groups. The 2 boronic acid groups are directed to the 1,2- and 4,6-hydroxy groups of glucose and form a fluorescent cyclic 1:1 complex that was confirmed by NMR.
 ST glucose detn photoinduced electron transfer sensor; fluorometry glucose detn boronic acid deriv; anthracene diboronate deriv glucose detn
 IT Blood analysis
 (glucose-specific mol. fluorescence sensor)

IT 50-99-7, D Glucose, analysis
 RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
 (glucose-specific mol. fluorescence sensor)

IT 162254-07-1
 RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
 (glucose-specific mol. fluorescence sensor)

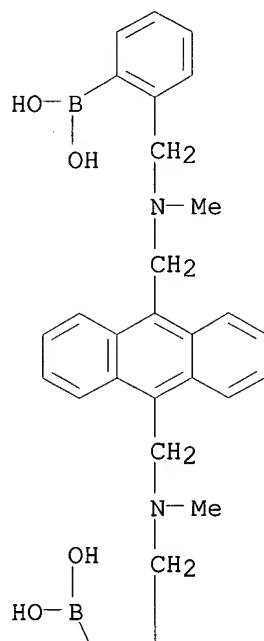
IT 161963-14-0P
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (glucose-specific mol. fluorescence sensor)

IT 162254-07-1
 RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
 (glucose-specific mol. fluorescence sensor)

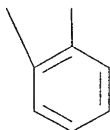
RN 162254-07-1 HCAPLUS

CN Boronic acid, [9,10-anthracenediylbis[methylene(methylimino)methylene-2,1-phenylene]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



=> d his

(FILE 'HOME' ENTERED AT 13:33:24 ON 06 AUG 2003)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 13:33:37 ON 06 AUG 2003

L1 4 S US20020127626/PN
E DANILOFF G/AU
L2 12 S E4
E KALIVRETENOS A/AU
L3 32 S E3-E8
E AU L1
E NIKOLAITCHIK A/AU
L4 15 S E4-E6
L5 16 S (SENSOR?(L)MED?(L)SCI?)/PA,CS
L6 14 S L5 NOT (NIIGATA OR LARIBOISIERE)/CS
L7 4 S L1 AND L2-L4,L6
L8 48 S L2-L4,L6 NOT L7
SEL RN L7

FILE 'REGISTRY' ENTERED AT 13:37:05 ON 06 AUG 2003

L9 79 S E1-E79
L10 18 S L9 AND B/ELS
L11 11 S L10 AND C6-C6-C6/ES
L12 2 S L11 NOT BOC30/ES
L13 9 S L11 NOT L12
L14 1 S (441011-77-4 OR 443290-72-0)/CRN
L15 1 S 443290-72-0
L16 3 S L12,L14,L15

FILE 'HCAPLUS' ENTERED AT 13:46:13 ON 06 AUG 2003

SET SMARTSELECT ON
L17 SEL L8 1- RN : 729 TERMS
SET SMARTSELECT OFF

FILE 'REGISTRY' ENTERED AT 13:46:15 ON 06 AUG 2003

L18 729 S L17
SET SMARTSELECT ON
L19 SEL L18 1- RN : 729 TERMS
SET SMARTSELECT OFF
L20 729 S L19
L21 57 S L20 AND B/ELS
L22 21 S L21 AND C6-C6-C6/ES
L23 14 S L22 NOT L11
L24 10 S L23 NOT BOC30/ES
L25 7 S L24 AND 2/B
L26 5 S L25 NOT S/ELS
L27 7 S L26,L16 AND (C42H50B2N2O9 OR C36H38B2N2O6 OR C44H52B2N4O6 OR
L28 6 S L27 AND 1/NC
SEL RN
L29 1 S E80-E85/CRN
L30 7 S L16,L27,L28,L29
L31 1 S L26 NOT L30
SEL RN
L32 0 S E86/CRN
L33 19 S L11,L22 NOT L30
L34 15 S L33 AND B>=2
L35 4 S L33 NOT L34
L36 11 S L34 NOT PMS/CI
L37 9 S L36 NOT S/ELS
L38 6 S L34 NOT L37
L39 9 S L31,L37

FILE 'HCAOLD' ENTERED AT 13:57:27 ON 06 AUG 2003

L40 0 S L30

L41 0 S L39

FILE 'USPATFULL, USPAT2' ENTERED AT 13:57:36 ON 06 AUG 2003

L42 4 S L30
L43 9 S L39
L44 9 S L42,L43
L45 4 S L44 AND (DANILOFF ? OR KALIVRETENOS ? OR NIKOLAITCHIK ?)/AU
L46 3 S L44 AND (SENSOR?(L)MED?(L)SCI?)/PA
L47 2 S L44 AND (PD<=20010221 OR PRD<=20010221)
L48 2 S L47 AND L44-L46
L49 7 S L44-L47 NOT L48

FILE 'HCAPLUS' ENTERED AT 13:59:17 ON 06 AUG 2003

L50 5 S L30
L51 7 S L39
L52 7 S L1-L4,L6-L8 AND L50,L51

FILE 'REGISTRY' ENTERED AT 14:00:12 ON 06 AUG 2003

FILE 'USPATFULL, USPAT2' ENTERED AT 14:00:49 ON 06 AUG 2003

FILE 'HCAPLUS' ENTERED AT 14:01:15 ON 06 AUG 2003

FILE 'REGISTRY' ENTERED AT 14:10:51 ON 06 AUG 2003

L53 STR
L54 SCR 1933
L55 50 S L53 AND L54 SAM

FILE 'REGISTRY' ENTERED AT 14:20:39 ON 06 AUG 2003

L56 29631 S 2508.17.56/RID
E C6-C6-C6/ES
L57 204 S L56,E3 AND B>=2
L58 113 S L57 AND (46.150.18 OR 46.156.30)/RID
L59 6 S L57 AND NC5/ES
L60 107 S L58 NOT L59
L61 103 S L60 AND NR>=5
L62 91 S L60 NOT L30,L39
L63 42 S L62 NOT (CCS OR PMS OR MNS)/CI
L64 12 S L63 AND (C42H50B2N2O4 OR C52H68B2O6 OR C58H64B2N4O6 OR C60H60
SEL RN 10 11 12
L65 3 S E1-E3
L66 30 S L63 NOT L64
L67 1 S L66 AND C32H42B2O4
L68 1380 S 46.150.18/RID AND C6-C6/ES AND B/ELS
L69 80 S 46.156.30/RID AND C6-C6/ES AND B/ELS
L70 170 S L68 AND 2/B
L71 43 S L70 AND N>=2
L72 20 S L71 NOT (PMS OR IDS OR MNS OR CCS)/CI
L73 4 S L65,L67
SEL RN
L74 10 S E4-E7/CRN

FILE 'HCAOLD' ENTERED AT 14:38:29 ON 06 AUG 2003

L75 0 S L73

FILE 'USPATFULL, USPAT2' ENTERED AT 14:38:33 ON 06 AUG 2003

L76 3 S L73

FILE 'HCAPLUS' ENTERED AT 14:38:42 ON 06 AUG 2003

L77 12 S L73
L78 11 S L77 AND (PD<=20010221 OR PRD<=20010221 OR AD<=20010221)
L79 0 S L77 AND L2-L4,L6
L80 12 S L77,L78

FILE 'REGISTRY' ENTERED AT 14:39:29 ON 06 AUG 2003

FILE 'USPATFULL, USPAT2' ENTERED AT 14:39:38 ON 06 AUG 2003

FILE 'HCAPLUS' ENTERED AT 14:39:50 ON 06 AUG 2003 .